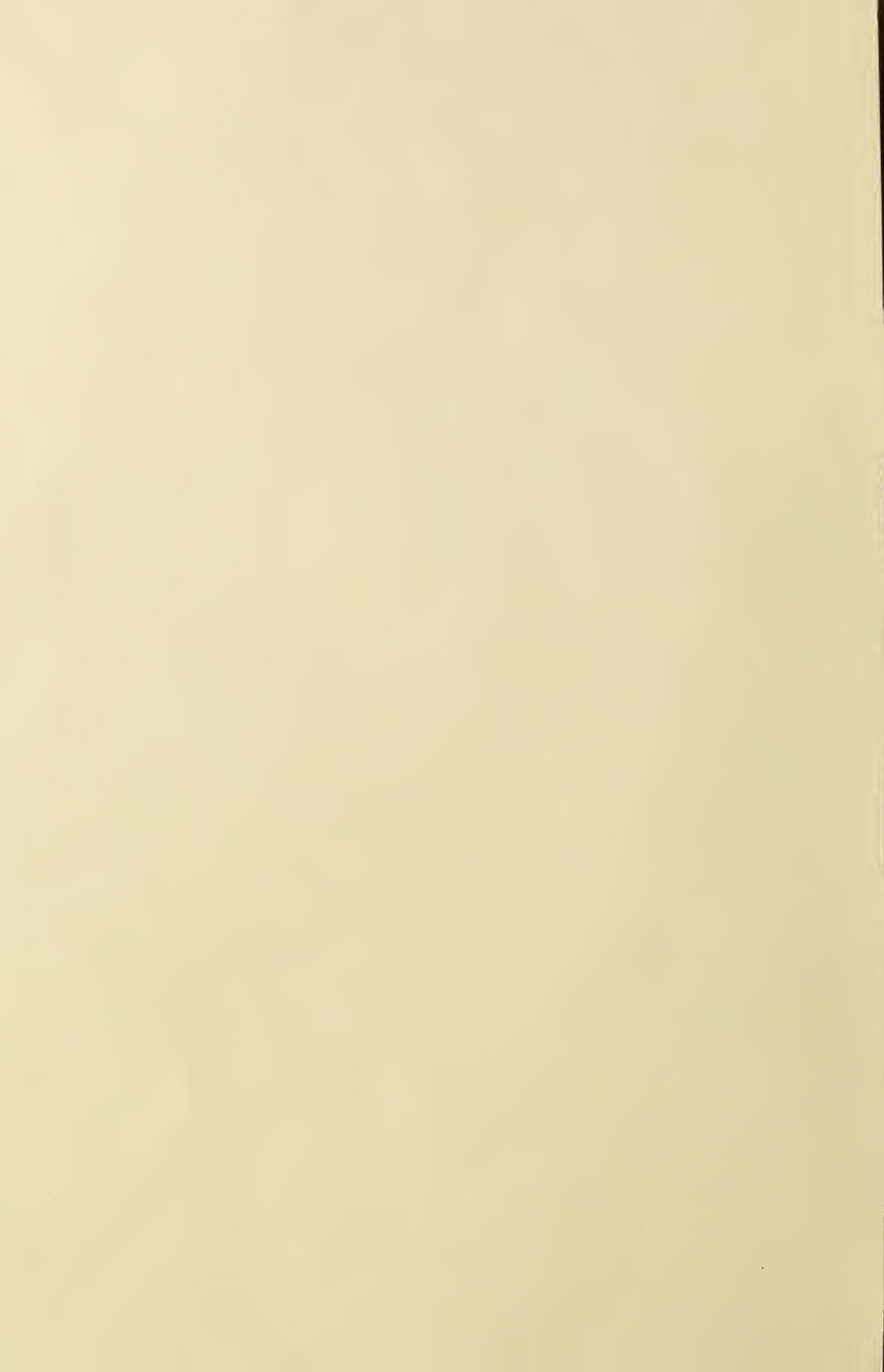


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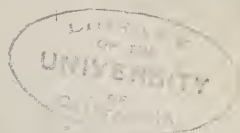


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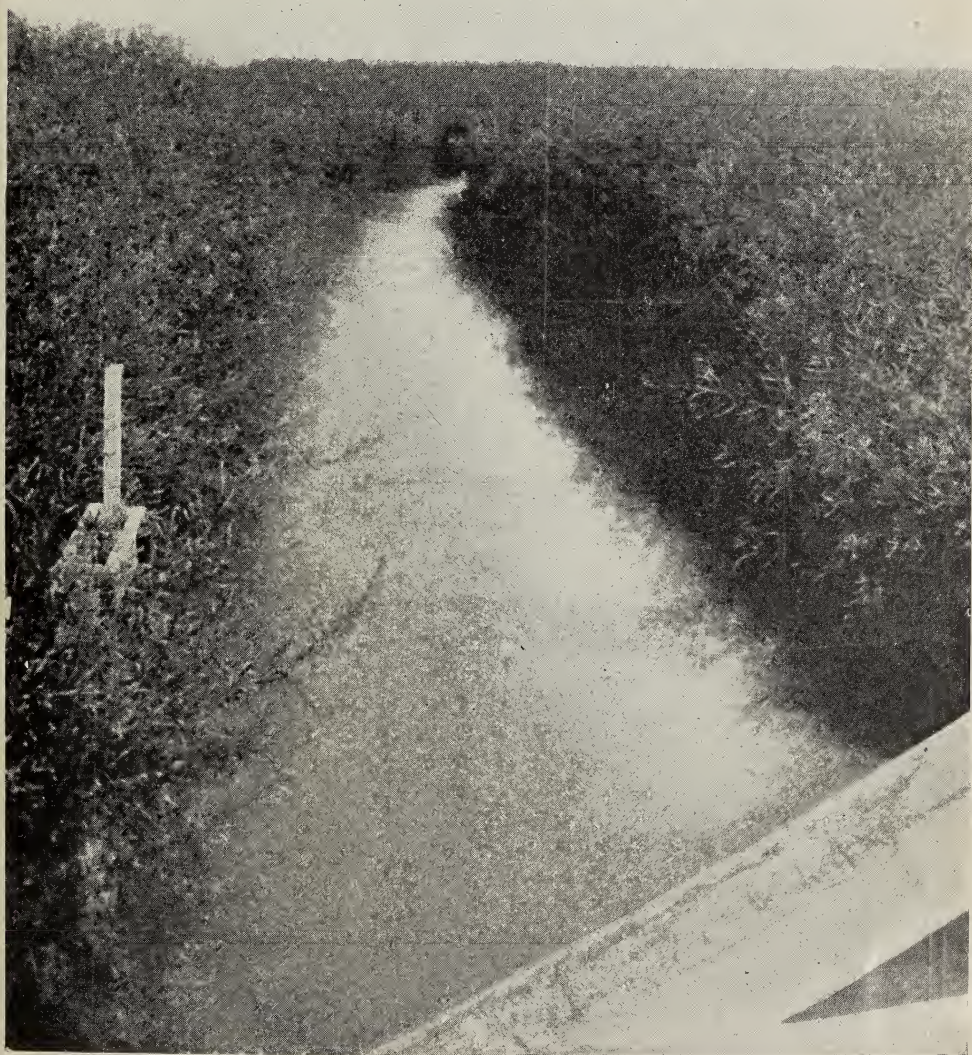
Vol. XLIII

AUGUST 15, 1915

No. 16



# Gleanings in Bee Culture



Sweet Clover Growing Along an Irrigating Ditch

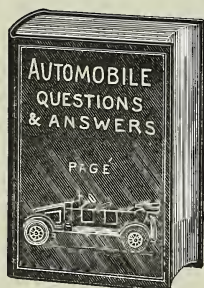


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# Gleanings in Bee Culture

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VOL. XLIII.

AUGUST 15, 1915

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## EDITORIALS

THE A. I. Root Co. has been awarded the grand prize and also a gold medal by the California-Panama Exposition at San Diego for its general exhibit of beekeepers' supplies and honey. We consider this the best exhibit we ever made.

BEEKEEPERS who are neglecting the information sent out by governmental agencies are missing much of value.

An excellent contribution to the stream of information from such sources is a series by Morley Pettit published by the Ontario Department of Agriculture, Toronto. Two of the latest of these are, "Bee Diseases in Ontario," and "Natural Swarming of Bees and how to Prevent it." These pamphlets are characterized by readable language, concise directions, pertinent illustrations and good printing. The manuals are free to residents of Ontario.

### Twenty Years a Bee Inspector

THE oldest foul-brood inspector, or, more exactly speaking, the one who has been longest on the job continuously, is N. E. France, of Platteville, Wis. On the 11th of August he began his 21st year. New laws just passed will give him a wider scope. These long years of continuous service speak volumes for Mr. France's faithful discharge of duty.

This same Mr. France was also General Manager of the National Beekeepers' Association for a good many years, or up to the time of its reorganization some two or three years ago, when it was placed on the basis of direct affiliation with state or other beekeepers' societies that desired to be connected with the parent body.

### Honey-crop Conditions and Prices

THERE is not much to add to our general summary in our last issue, page 608, except to say that conditions are getting better in New York, and some beekeepers in that state will secure a good crop. Conditions

in eastern Colorado show a total or partial failure. As this is an important part of the alfalfa district of the West, the shortage there may stiffen prices on alfalfa honey; but so far scattering reports show that in other portions of the Rocky Mountain districts there will probably be the usual crop of alfalfa, so that the shortage in eastern Colorado may not make much difference.

There has been an average crop in Ontario, Canada—about 55 lbs. per colony, according to the Crop Report Committee of the Ontario Beekeepers' Association.

Wisconsin and Minnesota will not come up to the yield of last year, either in comb or extracted honey. In fact, many predict that it will be only half a crop. To offset this, conditions are improving in New York and Pennsylvania.

In Ohio, conditions are widely different. In the northern part of the state, and especially the northwestern part, there will be a fair yield of clover honey. In some of the other portions of the state there will be almost a total failure.

The Weather Bureau map shows that general rains have been almost universal over the north-central portions of the United States. Some needed rains have been coming in Florida and Texas. Conditions are improving slightly in northern Texas.

So far comb honey is ruling at about the same price as last year. Extracted honey is running fully one cent lower.

### Live-bee Demonstrations, Once More ; One Important Point ; Advertising Honey

IN our editorial caution, page 610, last issue, we merely alluded to one important point when we should have said more on it, and that was, that the same bees should not be used more than twice in succession in bee-handling stunts. Ordinarily any bunch of bees, if properly manipulated, can be used in these demonstrations; but if the operation is undertaken more than once with the same bees they may cause trouble. If it is repeated four or five times in suc-



cession they may sting severely. When they are first rolled in a dishpan they are demoralized, and have no thought of stinging. It is an entirely new experience, and they are taken by surprise. They then can be handled like a bunch of kittens. But when the operation is repeated one time after another, they become less and less demoralized until they regain their complete colony spirit—the spirit of offensive and defensive. Then look out or *you* may be the one to be surprised.

Operators at county and state fairs make the mistake of handling the same bees over and over until they resist and resent all attempts to “make them good.”

There will be a number of live-bee demonstrations, doubtless, this fall. As we have done more of this work, perhaps, than any one else, we wish to emphasize several points:

1. Use gentle bees to start with, and those having a queen. While this is not strictly essential, it is advisable.

2. Do not use the same bees more than twice in succession. This is *very important*.

3. Always use smoke. Do not handle the bees roughly, much less pinch or crush them. We never do. Handle them as carefully as you would your day-old baby chicks. A bruised or maimed bee may stir up the whole bunch. If only one bee stings, the smell of the poison incites the rest.

4. All movements must be very deliberate. *Take a full minute* to pick up a handful of bees. It is impossible to grab a handful of bees as you would a handful of beans. The slambang methods of a vaudeville performer will not work.

Live-bee handling at fairs or other public places means more than merely satisfying idle curiosity. Besides its educational value it is one of the most potent means of advertising honey that there is known. It draws crowds as nothing else will, and a skillful manipulator will whet the appetites of his audience for honey. One purchase of a bottle or a section of honey will mean the sale of more. It is important that the live-bee demonstrator do his work right.

=====

### The Federal Net-weight Law, and its Practical Operation after a Year of Trial; How to Avoid Getting Stung by Uncle Sam

A YEAR ago we had a good deal to say about the federal net-weight law—particularly in regard to its application to comb honey. There has been a good deal of grumbling, because many believe that its practical operation is unfair to the produc-

er in that it compels him to eliminate the weight of the section itself from the comb honey it contains, and because it gives to the consumer as much as or more than the weight calls for on the minimum net-weight basis. But the principal complaint has been that it makes a lot of work and worry, some saying they have quit the production of comb honey, as they will not put up with these seemingly impossible conditions. As a matter of fact, many small comb-honey producers are paying no attention to it. As long as comb honey does not cross a state line the producer is safe, providing also the state in which the honey is produced has no net-weight law.

Most of the complaints relative to the law are made through ignorance of its actual provisions; and if the producer will only take time to look into the matter and then comply with the law he will find it entails no great hardship after all. When we get ourselves once adjusted to it it will result in better comb honey going to the public. The law practically compels every producer to use separators or fences and to grade his honey according to its weight. Before the law went into effect, practically none of the comb honey was properly graded. The sections (the fat and the lean ones) were mixed in an indiscriminate way in shipping-cases. The federal law, as well as many of the state laws that have been passed to conform to it, have stopped this because it is very unsafe to put out comb honey without properly grading it. While the law does not specify how comb honey shall be graded, it does say that every box must either be marked its exact net weight or the minimum net weight. As it is practically impossible to mark every section its exact weight in ounces and fractions of ounces, the only thing that is at all feasible is to grade the sections in groups according to their minimum net weights.

A few sections during a good season run around 13 ounces, exclusive of the section itself; but the great bulk of comb honey in an average season will run a minimum of 12 ounces. A large number will run a minimum of 11 ounces, and only a few 10 ounces. It is customary, therefore, to have some small spring scales and grade the sections into three groups by weight. Where there is very much honey that runs 13 ounces or more, one more grade will be provided. Each group is then cased by itself. After the sections are all in the shipping-cases, and before the covers are put on, a rubber stamp showing, say, “12 ounces net” is used to mark each section in that group. With pad in hand, strike the

pad, then the section; then the pad, and then the section. The work can be done very rapidly, and after the 12-ounce group is all marked, another rubber stamp, indicating 11 ounces net, is used, and so on to the 10-ounce stamp. In this way every section can be marked its minimum weight with a very little labor. The cases of sections are then sold by their minimum net weights. A case of 12-ounce sections should be sold for more than one holding 11 ounces.

When comb honey is properly graded in this way by weight it will usually bring more money than comb honey ungraded; and we venture to say that the beekeeper is not going to lose very much if he grades his honey as he should, and then charges a price that the market will command for such honey.

The buyers will pay more for such honey because, under the practical operation of the federal law, they know exactly the kind of honey they are paying for. Under the old *regime* it was impossible to know how the sections averaged by weight, although they could know what the gross weight was on the whole caseful of sections; but this encouraged indiscriminate mixing of the heavy bulging sections with the lean ones.

Rubber stamps carrying the various net weights generally used, as well as suitable scales, can be purchased of the dealers at a reasonable price; and no one should neglect the precaution of keeping from getting into trouble with Uncle Sam or the state. It is well to bear in mind that in some states there are in force net-weight laws. A year ago our dear uncle winked at a good many things that he will not now tolerate; and we desire to caution all comb-honey producers to be on their guard how they ship their honey.

Of course extracted honey in glass and tin come under the operation of the same laws; but in the case of the liquid product, each package can be filled to its exact weight or the weight specified on the label, which *must* show. Moreover, if the package weighs 36 ounces the label must show 2 lbs. and 4 ounces—not 36 ounces. Anything *under* a pound must show in ounces; anything over a pound must show in so many pounds and so many ounces if more than even pounds.

### The Ohio Field-day Meet

THE Ohio field-day meet, which was held at the apiaries of Fred Leininger & Son and Mr. J. H. Allemier, Delphos, Ohio, August 4, was a complete success. Practically un-

heralded—that is, not advertised in advance—there was a good attendance—something over sixty beekeepers being present. A careful estimate was made by the state inspectors as to the number of colonies represented. Several guesses were made, but a little computation showed at least 10,000 colonies were represented, with the probability of 15,000. The season, though late, had been from fair to good, and was still in full blast in that section of the state, and, as a natural result, the beekeepers from all over northwestern Ohio came to the meet. The most of them had secured some honey, and practically all of them were in localities where more honey was in sight. In going up by train and trolley we noticed that the nearer we got to Delphos, Ohio, the more white and sweet clover were in evidence.

There were several beekeepers there who had over 400 colonies each; two or three had over 500, and a large number had 100. The season has been backward, cold, and rainy; and at a time when clover is usually in its prime the plants were held back. It was also a noticeable fact, as we looked out of the car windows, that there were certain localities where not a single head of clover could be seen in the pastures; but when we got into Allen County we began to see a decided change for the better. In fact, it seemed to be the center of a group of beekeeping territories. Ohio has never been noted for being a great honey state as compared with New York, Michigan, and Wisconsin; but if there is any portion of the state that seems to have a large number of bees and beekeepers it is the northwestern part. The inspectors thought the lack of clover in some portions of the state was due to lack of lime in the soil.

At all events, for 1915 Allen County seemed to be an ideal place for a field meet; bees worked well all day. It looked like rain, but none fell until the beekeepers began to disperse.

Through some misunderstanding or mistake no preliminary announcement of this field meet, except too late, appeared in GLEANINGS or any other bee journal. The secretary, and Mr. E. R. King, sent out postal-card announcements that brought out a good crowd.

The day and place of meeting were ideally perfect. Fred Leininger & Son and Mr. Allemier have as pretty apiaries as one can find in the state. Their bees are what we would call light leather-colored gentle Italians; and by the number of supers on the hives we would say they were hustlers. We doubt if there is another apiary in the United States that has a more uniform strain of



bees than the Leiningers have. They are queen-breeders as well as honey-producers, and as such have been making a specialty of a fine strain of gentle honey-gatherers that are uniformly marked. The bees of every colony were so near alike in their yards that it would be practically impossible to distinguish one from the other. Yes, we did find just one with different bees in the yard of Mr. Allemier, the father-in-law of Mr. Leininger. This happened to be a pick-up swarm.

The apiaries where we met were models—everything so neat, grass kept down, hives in perfect rows, and in groups of twos, threes, and fours. The hives were home-made, but as perfect as a factory product, because Mr. Leininger is a fine mechanic.

We wondered if this slicked-up appearance was a common every-day affair, or only special for this field day meet. Mr. Morris and Mr. Ames, bee-inspectors, said they had been at these yards at different times unannounced, but they had never been on the premises when there was not perfect neatness and orderly arrangement. We observed that Mr. Leininger had been breeding, not for bright yellow color, but for uniform color, three yellow bands, gentleness, and good honey-gathering qualities. He has surely secured a perfect combination. The bunch of beekeepers walked all through the yards, sitting on the hives, getting in front of the entrances, and, notwithstanding the bees were flying well that day, not a person was stung, except when Mr. Morris, one of the state inspectors, gave a live-bee demonstration. He went at them with a vengeance—poured the bees all over himself, put handfuls of them in his mouth, and then blew them on the girls. He was not stung in the mouth, but was stung once or twice on his bare arms and hands. If the Leininger strain had not been as gentle as it was, he might have come to grief; but he said he knew the bees.

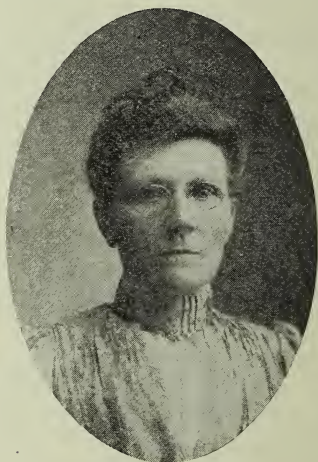
We have secured a beautiful photograph of this field-day group of beekeepers, and we hope to present it to our readers in our next issue. If the meet had been advertised in several issues in advance, the attendance, doubtless, would have been very much larger.

The meet closed by a ringing resolution commending the good work done by State Bee Inspector Shaw and his deputies in treating and eradicating foul brood in Ohio. This was passed unanimously. Another resolution of thanks was put through with a shout, expressing the thanks of the beekeepers for the courtesy shown them by the Leiningers and by Mr. Allemier.

### In Memoriam of Mrs. H. G. Acklin

IN our issue for June 15, page 477, we spoke of the sudden death of Mrs. H. G. Acklin, a lady well known to the beekeeping interests of Wisconsin, Minnesota, southern California, and later of central California. She was a native of New York, but removed with her parents to Wisconsin where she fitted herself for teaching, and later on taught for several years; but the honeybee had always been an object of interest to her, and she fully resolved to take up bees when opportunity offered, and it came. In 1884 she went to St. Paul, Minn., where she met Mr. J. C. Acklin. In 1885 they were married. Fortunately some bees were on the lot where they were building a home, and thus began their experience with bees.

Early in 1893 they began handling beekeepers' supplies, and for fifteen years were prominently connected with the bee business and in the rearing of queen-bees. Mr. Acklin devoted himself to the supply business while Mrs. Acklin gave her attention to the bees and to the rearing of queens. She took a very active part in the bee conventions, for her enthusiasm knew no bounds.



MRS. H. G. ACKLIN

On page 870, 1906, we recorded the fact of Mr. Acklin's sudden death, leaving Mrs. Acklin with health not good, and a little daughter, Ethel. Mrs. Acklin continued in the business for a couple of years; but ill health compelled her to make a change of climate and also a change of occupation. In 1908 she went to California, where she bought an orange grove in Glendora, about 25 miles from Los Angeles. In the mean time she did not wholly lose her interest in bees. She kept a few and attended the bee



conventions, and edited the California department in GLEANINGS; and when the A. I. Root Co. established a branch office in San Francisco she was given charge of it by our Mr. Boyden, who established it. She continued as manager up to the time of her death, which occurred May 30, 1915.

It was our privilege to visit Mrs. Acklin in her home at Oakland in our recent trip to California. We came to know more and more of her sterling worth, not only as a business woman and manager of our branch office at San Francisco, but as a careful mother of an attractive daughter of refinement and education, and a beekeeper of considerable experience. In fact, we doubt if there is another young woman in the country who knows the theory and practice of the keeping of bees better than Ethel Acklin, or, to speak more exactly, Mrs. Ethel Calvert.

Perhaps at this point it might not be inappropriate to speak of a little romance that ended very happily. Howard R. Calvert, son of J. T. Calvert, treasurer of the A. I. Root Co., last winter was looking after the A. I. Root Company's exhibits, both at San Diego and also at San Francisco expositions. It was during one of the visits to the latter city that he became acquainted with Miss Acklin. This was some time before the death of her mother. Howard showed a wonderful adaptability in the matter of helping Ethel to wash dishes. He said he used to help his mother in the same way, but we never saw him. Matters took their usual course. Before we left California the young man announced their engagement. He hoped we would "fix it up" with mother and father, and of course we did. It is needless to say that the job was easy, for Ethel and her parents had long been regarded as a part of the Root establishment. There is a "whole lot more" we might tell of the courtship of the young people, but what's the use? It's the same old story—an ever lingering dream to some of us who have been there.

Very soon sorrow came into the heart of the young woman. Her mother kept up with her work until within a week of her death, and then passed away. The daughter bore up bravely, notwithstanding her mother was the last surviving relative. Shortly after, the young people came east and were married June 26 at the home of the groom's parents.

They are now in charge of the San Francisco office, where both are taking hold of life's realities as well as of an active business career, but Ethel is the beeman of the establishment.

## Sandpaper or a Knife for Cleaning or Scraping Sections; a Lively Discussion between Two Authorities, both of whom have Scraped many Thousands of Sections

SOMETHING like two months ago we sent to Dr. C. C. Miller a new scraping-knife—one that we thought would do good work in scraping sections. We said it could be secured at a very low price, and we wondered if it would not make a good tool for beekeepers. In reply to this, Dr. Miller wrote:

Your inquiry concerning a knife for scraping sections leads me to say that "in this locality" a scraping-knife is a matter of little interest. Years ago we began using sandpaper in connection with the knife, gradually using the knife less and the sandpaper more; and a final suggestion from Allen Latham threw the knife almost out of use. The sections are taken from the T super, wedged up in a frame that is a little larger than the super and a little shallower; the roughest part of the propolis is taken off the bottoms of the sections with a scraper, but the chief part of the cleaning is done with No. 2 sandpaper. Then the whole thing is turned over, and the tops are cleaned the same way. As formerly done, the knife did all the rest, each individual section having its edges scraped, and whatever was necessary on any of the four sides. But when the Allen Latham suggestion came into play, the knife was discarded entirely for this individual section work, and it is all done with sandpaper. A sheet of sandpaper lies on the table, the sand up, and on this the section is laid flat. A few motions clean all four edges, doing the work in one-fourth the time the knife would do it, and perhaps doing it better. Any cleaning needed on the sides is done the same way. Of course, it uses up sandpaper, but, as Mr. Latham said, "There's plenty of sandpaper."

If cleaning must be done when it is very warm, then the knife has its innings, for to do good work with sandpaper it should be cool enough for the propolis to incline to brittleness. But generally there are more or less cool days, and one can take advantage of cool mornings.

We like the sandpaper ever so much better than the knife. Besides the important saving of time, the work is done more thoroughly. The sandpaper doesn't skip places as a knife can. Those, however, who have bulging sections produced without separators will need a knife for scraping edges. Possibly there might be some trouble with plain sections.

C. C. MILLER.

Dr. Miller's allusion to sandpaper immediately interested us. We remembered that it had been mentioned before, but our experience with it had not been entirely satisfactory. Our sections of honey coming in by the carload are scraped by us in the good old-fashioned way with a knife. Fearing we might have condemned sandpaper too hastily we submitted Dr. Miller's letter to the foreman of our honey department, Mr. Julius E. Gayer, and here is what he wrote:

This plan of sanding sections might be faster, but we don't like the work it does. It fills the paper very rapidly. If a drop of honey gets on the paper

it is dragged all over the outside of the section the next time you pass over it. There is great danger of racking the sections and getting a leaker.

It also throws dust into the open cells of honey. If the comb bulges, you of course get one that leaks, besides daubing up the sandpaper. We have been using sandpaper for about four years, but on an iron wheel which does the work. J. E. GAYER.

This note was intended only for our own consideration, and not for the public; but as it brings in some questions based on long experience in handling carloads and carloads of honey that has to be regraded and scraped, we give it for what it is worth. This we also submitted to Dr. Miller, and this in turn brought back another letter from him as follows:

*Dear Ernest:*—Yours of June 22 hardly needs reply beyond saying that you have sized up the matter exactly. What Mr. Gayer says is just what might be expected with sandpaper flying on a wheel at such a rate that it "cuts so rapidly that it sometimes wears off the edge of the section so that the sandpaper itself touches the comb." We have no wheel except Miss Wilson's very efficient pair of hands. As I have no personal experience in the work, I took up Mr. Gayer's objections with Miss Wilson, point by point, and will try to give her replies.

1. *It fills the paper very rapidly.*

"So it does; but, as Allen Latham says, there's plenty of sandpaper, and the time saved pays several times for the extra sandpaper."

2. *If a drop of honey gets on your paper, it is dragged all over the outside of the section the next time you pass over it.*

"Sometimes it happens that honey is daubed on the wood of a section, in which case it is wiped clean before sanding. I don't remember ever to have had a drop of honey fall on the paper from a section. If it did it seems I should have noticed if any trouble came from it; but I have no recollection of any such trouble. Could the rapid revolution have anything to do with it?"

3. *It also throws dust into the open cells of honey.*

"Not here. Dust doesn't fall uphill. May be it might with the blowing of rapid motion."

4. *If honey is bulgy, you of course get a leaker, besides daubing up the sandpaper.*

"That's true. We rarely have bulging—very rarely; and when it happens, sandpaper cannot be used for the edges—only the sides."

5. *Great danger of racking the section and getting it to leak.*

"Not as much danger of racking the section as when cleaning with a knife. It might be different with very rapid motion. I don't remember ever racking any with all I've ever done."

It seems pretty clear that the hands have it over the power sand-wheel. Fortunately, hands are also more plentiful than power sand-wheels.

C. C. MILLER.

This was again submitted to our Mr. Gayer, who replies as follows. This note also he intended only for our private consideration.

Our remarks were based on sanding the sections just as Dr. Miller suggested in his letter. We did not use the wheel, but used a sandpaper tacked on the table as he described.

We don't mean honey dropping from the cells, but inside of the section, which probably leaked out in transit.

Remember we are at the other end of the ship-

ping line, with different conditions. There is some difference between honey taken direct from the hive and receiving it after having been shipped a great distance.

Dust does rise, especially on plain sections, but not so much on beeway sections. J. E. GAYER.

As we did not seem to be getting anywhere, we told Mr. Gayer we should like to try out the sandpaper ourselves. Our first tests were decidedly satisfactory; but still we noticed that the edges of the sections were roughened up somewhat (more so than with the knife) and that fine dust would be deposited on the surface of the comb honey to a slight extent, also that the paper filled up with the glue. We came to the conclusion that sometimes the sandpaper was better, and sometimes the knife.

If Dr. Miller (or more exactly Miss Wilson who does the cleaning) were to try to sandpaper the sections that come to Medina from different localities of the United States, he (or she) might find it wanting, as does Mr. Gayer. Much depends on the temperature of the room and the general character of the propolis, for propolis, as is well known, varies according to the locality from which the bees gather it. That is only another way of saying that in some places the scraping-knife will work better than the sandpaper. At all events, this is the season for trying the scraping-knife and the sandpaper.

It might be well to say that our comb honey is largely in plain sections. The four edges of this scrape easier with a knife than the two edges and the two insets of a beeway section. On the other hand the last-named section might handle easier on sand paper.

There is one more point that must be considered besides temperature and locality; and that is the exact shape and edge of the knife as well as the coarseness or fineness of the sandpaper. In any discussion relative to sandpaper, we hope our readers will be sure to mention what number of paper (the degree of coarseness) gives the best results. If you are talking about knives, tell us whether it is a kitchen knife with a thin blade, or a caseknife with a stiff blade, or a stocky butcher-knife. Again, is the edge sharp, suitable for paring potatoes? or is it ground square so that the two right-angled edges of the knife do the work? We are liable to get all mixed up in our discussion unless we know what the other man is talking about, and the writer, therefore, cannot be too precise.

We shall be glad to get reports from those who have been trying both side by side, and the decision regarding the relative merits of the two.



Dr. C. C. Miller

## STRAY STRAWS

Marengo, Ill.



As further reply to "A subscriber," p. 554, I may say that I had virgins cross the ocean before mating, and they did excellent work as queens.

ON page 591 it is estimated that four men can by hand clean ten cases of honey in an hour. Those four men ought to take lessons of a woman I know of in this locality.

FRANK A. GRAY sends samples of white clover (one of them looks like alsike) and a yellow kind called Canada clover, and wants to know if he is right in counting the yellow much inferior to the white. Entirely right, I think. Except yellow sweet clover, I know of no yellow clover of value for honey.

THE *British Bee Journal*, p. 229, copies a clipping which says that in that country one firm uses an average of 40 tons of honey per month in the manufacture of a certain cough mixture. Even counting the short tons of 2000 pounds, that means 2630 pounds a day, or nearly a million pounds a year. Some honey.

C. V. CONOVER, that's a bright-looking scheme of yours to save foundation, p. 584, but unless you use excluders I should expect the queens to go up and lay in the drone comb sure to be found in some of those centers. Then for every  $\frac{1}{4}$  cent you save on foundation I should expect you to lose  $\frac{1}{2}$  cent in the amount of honey obtained.

B. C. AUTEN, you've no consideration for my comfort—made me get up off the lounge where I was comfortably reading *GLEANINGS* to go and smell and taste the water in the bees' cork-chip drinking-tub. You say, p. 583, it "will get foul in a few days." Mine had stood the whole season, but I found not the slightest foulness. Didn't you forget to put salt in yours?

E. F. ATWATER says, p. 547, that not one queen in a hundred will go up to lay in sections if bees build drone comb there. But they do, friend Atwater, here. If my bees have a chance to build drone comb in a section, it is the common thing to find such cells left empty for a time, awaiting the coming of the queen, and about 25 queens in a hundred accept the hint. You speak of economizing with a half-sheet or V starter. Do you believe it's *real* economy to use anything less than full sheets?

WET. That characterizes the season of 1915 in this locality. At the end of July,

although clover is abundant, bees have been kept indoors by the weather for four days, and it's been somewhat the same throughout the month. However, there may be no loss in the long run. The extreme wet continues the clover in luxuriant growth, and the prospect for a continuance of bloom looks just as bright now as a month ago.

Later, August 3. Still raining, and clover still growing. [See editorial.—Ed.]

J. E. HAND says, p. 489, that 14 frames is the limit of practical expansion. That would probably mean that there would be 12 or 13 frames of brood. Not many queens reach that. But some go beyond it, and possibly a good many more might if they had the chance. But the question arises, Do the bees have a fair chance? Generation after generation they are confined much within their capacity, and does not this have a tendency to lessen that capacity? [You do not touch on the great question raised by our friend Mr. Hand, whether or not it is advisable to have one large brood-chamber or a multiple of two or more of medium size, and tier up in order to get the necessary capacity. Your opinion on the proposition would be interesting.—Ed.]

"BREED from the best" has been my slogan for some time. It's the one thing I'd especially like to leave as a sort of legacy for beginners. So I'm grateful to J. E. Crane and E. S. Miles for that closing paragraph, p. 483. They're dead right in saying bees vary, and that their varying traits are transmissible, and so "breed from the best." [We should like to know what you mean by "breeding from the best." Said Vernon Burt to us the other day, "I like gentle bees; but I have about made up my mind that if I want honey I shall have to take bees that are a little irritable."]

Now, doctor, what is the first thing you look for in the "best"—the ability to pile up honey in the supers, or a combination of all good qualities, including gentleness? In other words, are you willing to put up with irritability and general all-around meanness in the way of robbing, bad color, and poor markings for the sake of getting stock that will winter well and secure a crop of honey? The two last qualities go hand in hand. Bees that die in winter or are weak in the spring can't get honey later. In short, doctor, tell us what you mean by "breeding from the best."—Ed.]



J. E. Crane

## SIFTINGS

Middlebury, Vt.



Sixty pounds of extracted honey to the can. Yes, that is just right. Will producers please remember?

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That "Amateur" may be an amateur at beekeeping, but in describing "the beekeeper who is never stung" he is more than an amateur. He is an artist—page 506, June 15.

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I was greatly interested in the mammoth leaves of sweet clover, page 537, July 1. May its blossoms be proportionately large, with every one dripping with the choicest nectar.

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As the season for fairs comes around it should be remembered that there is nothing that attracts bees so quickly as overripe pears and bananas. If these are kept protected from bees it is not difficult to keep them from confectionery.

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F. C. Chadwick quotes A. D. Wolfe as saying that "if a stand or two of bees is kept in each orchard, the fruit will be larger, better-flavored, better-colored, more abundant, and of better keeping quality." This is giving the bees a great deal of credit for their work.

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I may have spoken of it before, but I will mention again that I find many trying to cure American foul brood by caging the queens or making them queenless—in fact, by European-foul-brood methods. Don't do it. It is no use. They are sure to come down again with the disease.

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I was told to-day how one farmer learned that stock would eat sweet clover. He cut the pesky stuff at the roadside; and after leaving it out for weeks in all sorts of weather he drew it to his barnyard for stock to trample on and make manure. Strange to say, his cattle left his carefully cured hay and ate the badly weathered sweet clover instead. Let us take courage. "The world do move."

\*\*\*

Do we sing as we work? It is interesting to note that the birds sing the most when they work the hardest during the season of nest-building and the rearing of their young. If we cannot sing we may at least read the verses in "The Dixie Bee," for Grace Allen seems to bubble over with song

like the birds. Glad we are to learn more of her beekeeping experiences through her department.

\*\*\*

I have been much interested in watching bees working on the buds of a clump of peonies near my door. The buds are almost the exact color of the leaves, and, more, the clump is hidden by the house on one side and lilacs on another, yet the bees have no difficulty in finding them. From this I infer that the sense of smell plays quite as important a part in bees finding nectar as the sense of sight.

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In bulletin No. 151 of the South Dakota Experiment Station we find a letter from R. A. Morgan stating that he would not hesitate to give \$25 per acre as rental for the exclusive right of his bees to pasture on each acre of white sweet clover to be grown within 160 rods of his apiary, this offer to be good up to 100 acres. He estimates that the bees would gather from each acre \$100 worth of honey, wax, and pollen that would be valuable to the apiarist.

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Were there ever two seasons alike? I have many times thought that a certain season would prove to be like some other season I have known in the past fifty or sixty years; but somehow they all turn out differently. The present season is a curiosity. We had a heavy rain about the 25th of February, ending in several inches of snow, when the rain seemed to be over for the season. Scarcely an inch of water fell from that time till June 11, when we had a very good fall with occasional rains until June 30, when it was again very dry. Then it began to rain, and kept it up for eighteen hours. There was plenty of clover on the ground in early spring, but it looked as though it would all dry up; but the ground was so mellow that the moisture came up from below, and clover began to bloom earlier than usual. After the rains began it was so cold and windy that bees could do little. During the last half of May there were many frosty mornings, and even into June, some of them severe. Bees have been whipped out by cold winds and hard work. Not until June 28 did we have good honey weather, and but little surplus has been secured. Now, Aug. 1, the ground is again soaked, and we may yet secure a fair crop of honey. There have been very few swarms up to this time.

# BEEKEEPING IN THE SOUTHWEST

Louis H. Scholl, New Braunfels, Texas.



While the Texas honey crop will be somewhat short as a whole, some beekeepers have made very fair crops. These are scattered considerably, however, over the state. While the crop is short there was quite a good deal of honey, with a good demand for it.

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Grassy apiaries are exceedingly dangerous these dry seasons on account of destruction by fire. Just a little spark from the smoker may mean the end of the entire apiary of some beekeepers I have visited, where the grass and weeds were knee-high and as dry as powder. Clean them up!

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"Don't give up the ship" is mighty good advice to those who may become discouraged because they did not make a good crop this year. Be kind to your bees and do not neglect feeding them if it becomes necessary. By all means save them, as they may reward you thrice over for your kindness next year.

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"Bulk comb honey" and "chunk honey" are two different things, yet some of our friends of the North and East frequently make the mistake of referring to our bulk comb honey as "chunk honey." Get away from that! You may seem to think it all right to do so, but we don't. We think it betrays a good deal of ignorance on the part of the person so using the right and the wrong names of this thing, and we hate to think that. It is, therefore, better to use the names correctly.

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## "HONEY IN THE ICE-BOX."

The editor calls attention to the foolish habit which some merchants have of placing honey in the ice-box. I have given many instructions to my customers in time gone by, along exactly the same line. Of late, however, my instructions have been just entirely opposite. I'll tell you why. I made a discovery by chance. A tumbler of honey found its way from the table into the ice-box with the other things by mistake. It had just come from the ice-box on to the table when I ate some of it with my hot cakes. What a difference between it and the usual thinner honey as we find it, and especially during warm weather!

Since then my instructions to customers have been to place the table dish in the refrigerator if they wish to enjoy improve-

ment in already good honey for table use. Since these instructions were given, the consumption is greater because they enjoy the nice, thick, cool honey far better than they would if it were in the original state. And I do not see that any harm can come from such procedure. Of course, it would be wrong to place the entire vessel containing a larger quantity of honey in the ice-box. [Our editorial referred to was aimed against the storing of honey in the *dealer's* ice-box; and comb honey, of course, should never be placed in a refrigerator, whether in the home or in the store.—ED.]

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## BEEKEEPERS' FIELD MEETINGS.

I have been calling the attention of beekeepers, especially of Texas, to the great importance of holding field meetings and beekeepers' picnics from time to time. The Bexar County Beekeepers' Association recently held such a picnic, and it was indeed a most successful venture. This association is one of the liveliest organizations in this state. It includes the beekeepers of the San Antonio district, as this city is the county seat of Bexar County. There is not only a good membership, but the most of the members are real live wires.

The picnic was held at the apiary of Mr. A. P. Heinen, at Southton Park, about ten miles out of San Antonio. A grove near the San Antonio River banks served splendidly for such an outing. With a bountiful supply of eatables and refreshments, and a regular feast of bee-lore, there was plenty of real enjoyment for young and old, for the ladies as well as the men folks. There were visitors from seven counties.

A short address by the president, Lewis Maverick, some pertinent remarks on the subject of bee diseases by M. M. Faust, of Floresville, followed by a talk on co-operation and organization by myself, was the program in the afternoon. All day there was free discussion and demonstration. Besides the regular hive equipment in its completeness in Mr. Heinen's apiary, E. G. LeSturgeon, the secretary of the association, had provided a great variety of hives and other beekeepers' supplies and equipment for exhibition. A person in charge of these supplies was kept busy all day at the various occupations of hive-nailing, putting in foundation, and the dozen and one other things that can be done to keep a crowd of lookers-on busy.



# BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



The powers of Europe went crazy one year ago to-day, July 29, and the end is not yet in sight. The conditions of finances will not be normal for many years to come, and the bee industry will probably be one of the sufferers.

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There is a movement on foot to market honey through a local orange-distributing agency. A splendid idea indeed! The vast distributing business of this agency should be of immense benefit to the producer. Now, if the beekeepers will pool their interests as the orange men do, and will be willing to take a uniform price for their honey according to the grade, we shall have made a great step forward. Grading will be a difficult problem. Blending should be a feature of the business that a uniform grade could be offered to the buyers, and not to exceed four grades should be the aim.

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Among my visitors for the month was Mr. S. M. Boschnogel, of Loudersburg, Pa. Mr. Boschnogel has made very extensive travels since leaving home the first week in June. He traveled east through the New England States, back through New York, then into Canada, and as far west in the Dominion as Calgary, thence south into Montana, Wyoming, Idaho, Nevada, Utah, and to San Francisco, San Diego, and Redlands. He had covered over 7000 miles when here, 400 of which he had walked that he might see more and study conditions better. He will add several thousand miles to his trip before he reaches home next fall, and will have visited many prominent beekeepers and most of the scenic places in the United States.

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During July I spent four days in the higher San Bernardino Mountains, and, as usual, kept my eye open for bees. I found them quite numerous at Bluff Lake, a resort over 7500 feet above sea-level. There were numerous blooming flowers and shrubs for them to work on; but what caused me the greatest wonder was the immense amount of honey-dew on the fir-trees. The leaves were shining like crystals with the honey-dew that has dried and crystallized on them. The bees seemed to be able to work it only in the morning, to any great extent. There was fifteen feet of snow at this point last winter, some remaining until the first of

June, so I am wondering what the real length of the season is at that altitude. Frost is known to come very early. In fact, there was a heavy frost one night while I was there. It seems to me that three months would be about the length of a season to expect there.

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In the issue for Jan. 1, 1912, is an article by Arthur C. Miller entitled, "A few random notes on the way bees 'make' honey." At the time I read this article by Mr. Miller I could not bring myself to believe some of his contentions, but resolved to give them some careful consideration and study. I have had the above-mentioned issue of GLEANINGS close at hand since that time for reference to his article. Mr. Miller says that a bee returning does not rush for a cell in which to store its nectar, but, on the contrary, she spends a seemingly needless amount of time wandering about and inspecting cells. I have seen nothing in the past three years that gives me any foundation for believing that Mr. Miller is correct.

Quoting again, "When the bee has emptied her sac she backs out of the cell, wipes off her face, antennæ, and tongue, stretches and plumes herself, and, likely as not, crawls into some cell or hangs in some quiet corner for a nap. Thus she may stay for a few minutes or for half a day." The above is the hardest of all for me to believe, and I regret that I must say it seems to me to be without sufficient foundation. I have made some experiments with field bees, and the length of time it has required them to return to baits placed for the express purpose of timing them. The tests have been so conducted that there could be no reasonable doubt as to getting the exact time it took a bee to get its load and return for the second and third. In none of these tests have I found any disposition on the part of the bee to loaf on the job as Mr. Miller suggests.

I will admit that I have not spent half a day watching a single bee to see what its actions are in the hive for that length of time—whether it crawls in a cell or hangs up in a corner for half a day. I do not believe that a single bee can be kept under observation for that length of time if the weather is sufficiently warm for them to move around freely, and the bee is in active condition. There are many things in the entire article that to me savor of speculation.



# CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



## USING TWO-STORY BROOD-CHAMBERS

"In using brood-chambers two stories high, which is better—the eight or ten frame Langstroth hive? I am told that, for section honey, two-story eight-frame hives, or sixteen frames, are best until the time to put the supers on; then one story is to be taken off, reducing them to one story or eight frames. In this locality the honey harvest opens and supers should be put on somewhere about June 5, and up to that time the queen rarely occupies or fills more than eight frames with brood. Under such circumstances would it be necessary to put on the second story?"

If a single story gives all the room the queen will occupy, and if no more room is needed, then there can hardly be any advantage in giving a second story so far as the part of the queen is concerned. But no one can be perfectly sure in these matters if he has never tried it. You can hardly be sure that none of your queens will occupy more than eight frames until you give them a chance. Bees do not freely use either of the two outside combs for brood, but use them mostly for honey and pollen. If brood is found in either (and it may be found in both) they are somewhat crowded for brood-room. If you find eight combs occupied with brood in an eight-frame hive, the probability is that more than eight frames would be used if the bees had two stories. A strong colony in two stories may have from ten to twelve frames of brood. Some colonies do not need the second story, even with an eight-frame hive, but many more do. If you practice using two stories you will find a good many more of your colonies needing them than you thought. Giving all the room needed results in stronger colonies.

But why be confined to an eight-frame hive? With a ten-frame hive a good queen will give eight frames of brood and some brood in the two outside combs, as much usually as is found in the two outside combs of the narrower hive. This will satisfy most of the queens you are likely to have, and put a larger force of bees in the fields at the time of your surplus flow of nectar. If you wish to contract so as to throw more of the bees and honey into the sections, put a dummy in place of each outside comb at the opening of the surplus flow. This will answer the same purpose as reducing the two-story eight-frame hive to a one-story.

In order to secure honey we must have

bees. As a rule, the more bees the more honey. If a queen has filled all the available cells in eight frames, two more additional frames will give more bees, and, consequently, more honey. Then if, at the beginning of our main nectar flow, we prefer honey stored in the sections instead of the two outside combs, let two dummies take the place of these, and we are brought back to an eight-frame hive again with approximately one-fourth more laborers to work in the nectar harvest than if we had used only an eight-frame hive all the while.

Now as to the two stories. A queen that has eight combs well filled with brood just at the approach of the honey harvest will not fill eight more as completely as another queen would have if she had had them early in the spring. What extra brood she does put in the upper story will hardly give bees that will labor to advantage in that harvest. Bees in their prime as laborers when the honey harvest is at its prime are the ones which make the profit.

The profitable keeping of bees does not depend so much upon having each queen occupied to her full capacity as it does in having the combs and hives occupied to their full capacity, and that at just the time when the flowers which generally give surplus honey are in bloom. Taking advantage of this thought, and by using the ten-frame hive as a single story up to within twenty days of the opening of the surplus bloom, and then putting a queen-excluder on top, and on top of this another ten-frame hive filled with good worker combs, a two-story hive can be made a paying investment. Swarming can be kept back till the lower hive is nearly filled solid with brood, and quite a start in honey made in the upper hive by way of storing honey, which start accustoms the bees to storing above.

As the surplus bloom arrives, reverse the hives, put a super of sections between, and see that the queen is in the now lower hive with the queen-excluder under the super. The bees will remove the honey that has lately been stored there to give place for the eggs from the queen, and this honey, together from that coming from the fields, will go into the sections almost at once. Ten days later, shake the bees from seven of the combs now in the upper story, at the entrance below, and set the upper hive on a new stand, thus getting a new colony. By adding supers as needed, success is yours in good seasons.

# GENERAL CORRESPONDENCE

## THE DEVELOPMENT OF THE HOME HONEY MARKET

BY L. L. BURR

That each individual honey-producer should always make an effort to develop his local market goes without saying. Yet it is also a well-known fact that many of the large producers make no effort whatever to increase home consumption. They say they are honey-producers, not salesmen. Such an attitude is all right when prices are good. At the present time, however, all honey-producers should be cognizant of the fact that a condition exists that did not exist in years past—namely, the war in Europe.

As a result of the war a condition exists which will continue to exist as long as the war lasts, and perhaps for a period following. The result is that a large proportion of the honey of the West Indies and of Central America that in the past was sent to Europe will now find its way to the United States. From this there can be but one result—that is, lower prices; and it behooves the producers of honey in this country to develop their home markets to the utmost if they desire to secure the best results in disposing of their honey crop, for the large cities are going to be flooded, and the prices there cannot but suffer.

In the following, what I have to say on the subject of selling honey is from experience; and perhaps I may have something to tell from that experience which will be of assistance to others.

I do not remember the first honey I sold. I did it all through my boyhood, and enjoyed the work. In selling honey, as in every other business, there are certain ethics that it always pays to observe if one desires to build up a substantial business; and according to my idea they are as follows:

1. If you are going to sell to the retailer, do not peddle honey to the housewife in the same locality. I might here state that, as to the matter of peddling, I am innocent. I have never sold to any person but the merchant, and so know nothing from per-

sonal experience about that art. I do know from observation that nothing makes a small-town merchant so sore as to have a man sell him some product, and then go out and peddle to that same merchant's customers. Where that is done, and the merchant becomes aware of the fact, there is but one result; and that is, the merchant will tell such a seller that he will see him in Hades, and wish him all the tortures that the property room contains, before he will purchase from him a second time.

2. If it is a small country town with but a few stores, pick out the most progressive merchant and inform him that, if he agrees

to handle your honey, you agree to furnish to him alone, and that you will not sell to any of the other merchants. From my experience this is far more satisfactory than trying to deal with all the store-keepers, as the one would sell practically as much honey as all of them put together. Should the town be large, pick out one merchant in each neighborhood; and in each case be sure to let the merchant you deal with know that you are not

going to sell to some other merchant across the street or around the corner.

3. Make your prices standard in each town. Don't sell to one merchant for one price, and then later sell to some other merchant in the same town for less money. If you do you are breeding trouble. There are merchants who want only the very finest grade of honey, no matter what the price; yet it is well, when furnishing honey to such merchants, to let them know what your prices are for other grades, and explain the difference in grades, so that they can distinguish them themselves if possible; in other words, treat them in such a way that they cannot help knowing that you are dealing with them on the square.

4. The sections that can be seen through the glass should be a fair indication of the entire contents of the case. When a mer-

### WOULD YOU?

BY GRACE ALLEN

Oh! who would live in cities  
When the blue is in the sky,  
And walk resounding pavements  
When the grass is thick and high?  
And who through crowds would jostle  
When the fields so broad are spread,  
And gaze on smoke-drab buildings  
When the rose is blooming red?  
And who would brave the noises  
Of the city's rushing roar,  
When gentle bees are humming  
As they never hummed before?  
Oh who would live in cities  
When the country calls so true,  
Or compromise in suburbs?  
I would not! (But I do!)



chant finds out that your goods are packed that way, you are never going to be bothered by having him go through the case to see just what your grade of honey is.

The foregoing are ethics that I always observed in the days when I sold honey. It may be possible that conditions have changed since then in regard to No. 2, and it might not always be advisable to follow it.

Simply observing business ethics, however, will not of itself sell honey to a merchant who is doubtful as to whether honey is a product that he can sell, or to one who is prejudiced against handling honey; but such ethics will assist in retaining customers after you have once secured them. As we all know, there are all kinds of people who are storekeepers, the same as in other kinds of business, and the same line of talk or procedure that will sell honey to one grocer will not work with all. The following, however, are a few stock suggestions:

With the merchant who says that he has no call for honey, and does not think that he can sell it, quite often it is advisable not to waste words with him trying to get him to part with some good cash; but make the proposition that you desire to leave with him one or two twenty-four-section packing-cases, with the understanding that he is to set it on the counter in plain view of his customers; that you will return in about thirty days; and if in that time he is of the same opinion you will take what is left on his hands, and allow him the regular profits on that which he sold.

There is always the merchant who will tell you that honey is sticky stuff to handle, and that he does not want it in his store for that reason. To them explain that your honey is placed in non-drip cases, and that the case can be placed anywhere with no danger of leaking. It is also well to point out to all storekeepers to whom you sell honey that there is a top and bottom to sections, and that a section should always be placed with the top side up.

There is a great deal written these days about the "psychology of salesmanship," whatever that may mean. I knew nothing of psychology in the days when I sold honey, which was from the time I was some twelve or fourteen years old until I was eighteen years of age; but I did find that, to sell honey, one must have confidence in himself. Be ready to talk bees at all times to any storekeeper, his clerks, customers, or any other person willing to listen. Always let it be known that you thoroughly understand bees and the production of honey, the natural history of the bee, and the history of honey production. A man, to sell any article successfully, has to understand thoroughly the particular article he is selling; and there is so reason why the average beekeeper who has enough nerve and stamina to produce honey should not, with a little practice and experience, develop into a better honey-salesman than the average professional salesman who knows nothing of the practical side of bees and honey.

## SELLING HONEY FROM HOUSE TO HOUSE

BY WALTER S. POWDER

I am now in position where I have nothing to sell, and I feel that I can talk to my beekeeping friends without any suggestion of free advertising. Much is being said about overproduction in some localities, while a shortage exists in other places, and that this situation should be equalized and prices advanced. I believe the situation can be solved; but up to this date it does not seem to be a practical problem for organizations.

A man who has traveled extensively in Indiana as a bee inspector submits the following figures. He estimates that our 92 counties contain about 2000\* colonies each, which would mean 184,000 colonies in the

state, and that on an average season each colony would produce 30 pounds of surplus honey. These figures may be a little inaccurate either way, and yet one can perceive that an immense amount of honey is produced in this state. The point that I now wish to bring out is that Indiana does not produce enough honey for state consumption, and I do wish I could tell how many carloads of honey are shipped to this state from the North and West every year, all of which finds a ready sale. I know that some of our neighboring states are in the same line with Indiana.

Honey is one of our greatest luxuries, and as a health food not one word has ever been said against it. Yet thousands of families do not provide it on their table as often as once a year. Beekeepers have traveled a rugged road, especially before

\*Striking an average is difficult, but from another source we have figures that seem to make the average for the state a little less than 1000 colonies per county.—Ed.]



our pure-food laws were enforced, and now what seems to be sought mostly is better distribution. I can say without boasting that I have had extensive dealings for many years as a dealer in honey, and many interesting observations have come before me.

For a number of years I have been deeply interested in supplying men with honey that they sell from house to house. Some have failed, while many have made it a decided success, and I have tried to analyze the situation. I find that the man best suited for this work is he who has an apiary, even though it may be small, because he can talk about bees in an intelligent manner, and this goes far in making sales. He can begin his work by disposing of his own product, and then secure large shipments from localities that are oversupplied.

Among all the different features that are necessary to success is to keep up the quality. Quality means that one can go over the same route and find an increased list of patrons; and when honey of quality is placed on the table, visiting friends will make inquiry as to where so fine a brand of honey was secured. I personally know of several who have established routes on this plan that earn for them as much as five to seven dollars per day. Those who are most successful are pushing the sale of extracted honey; and that they keep up the price seems to help advertise their business.

I have watched two men of equal ability start out, one selling at 15 cents per pound, while the other sells at 20 cents; and the 20-cent man invariably secures the most business per day. Seemingly the higher price carries confidence with it. With some there is a tendency to increase their profits by putting out inferior honey. These are the men who fail. Inferior honey will never promote business. I have seen it so inferior that it even contained foreign substances; and while a few sales may be made, those securing such honey are likely to resolve that they never again want any more honey.

The work described can be made very pleasant, and no deceptions are required. The successful ones carry a sample, call at the kitchen door, and insist on the housewife tasting it. One of these men disguised himself as a farmer, wearing boots with his trousers tucked inside, and began by telling a story about "just drove in from Southport; and while my wife is doing a little shopping I thought I would try to sell some honey, as my bees did quite well this year." He disposed of a good deal of honey, but did not continue very long. He is the same man who asked for a drink of water in a

kitchen, and then asked the landlady how to turn the faucet to get city water; and after she showed him he remarked, "How nice! I supposed you had to work a pump-handle like we do at home!" I think he overdid the thing; but the lady surely thought of him as an honest farmer.

Another successful salesman, whom I was supplying, solicited near my home, calling on my immediate neighbors. My neighbor told him that she used honey, but had been getting her supply from Pouders' honey-store. He replied, "I know Mr. Pouders, and he sells good honey; but I wish you would just taste this sample." She tasted; and, looking at her inquiringly, he remarked, "Now, lady, I want to ask if you can get honey like that at Pouders' honey-store." She bought! We have men unemployed, and here are opportunities going to seed. If pushed, there would be an increased demand at higher prices.

I have had much personal experience in disposing of bottled honey to the retail grocery and drug trade. This was in the days when we had no pure-food laws, and I found it an uphill business, as I had to compete with jars containing a strip of comb honey, the jars filled with glucose. They really had an attractive look, and did not granulate on the shelves. I could not successfully compete with such goods; and at best my margins were small, wagon delivery was an expense, accounts were opened up, and collections very difficult. I would have abandoned this branch of the business earlier had I not looked forward to drifting my business to wholesale houses. I felt, however, that I could not interest the wholesaler till I had created a demand at the retail stores, which proved to be true.

During one season I sent a solicitor over the state who brought considerable business, but could not be called a pronounced success. Merchants hesitate to order goods in small lots, and prefer to secure such goods as honey with other larger shipments, thus reducing transportation charges to a minimum. Advertising Pouders' honey in newspapers has always been a failure with me; but getting bottled goods in wholesale houses is the best method that I have ever learned for distributing this class of goods. Supplying their traveling representatives liberally with free samples at times when business seems dull gives it an impetus. Some of my best business in this line resulted by using labels from the wholesale houses instead of my own.

I sometimes wonder if we are as grateful as we ought to be for the pure-food laws that we have to-day. I used to return from

a soliciting-trip discouraged, for it seemed to me that many of my clients actually seemed to prefer the adulterated goods, and even on my best days my margins were exceedingly small. I recall one instance where a druggist greeted me cordially, looked at my sample, and remarked, "I have a recipe

for making honey just like that; but if you will put something in it to give it a more amber color it will look still more like honey." I kept back my fighting blood with much effort, and later he became one of my regular patrons.

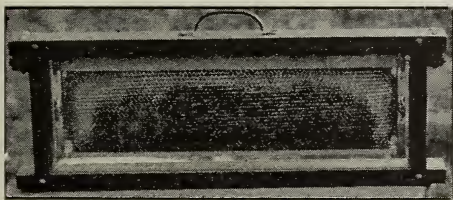
Indianapolis, Ind.

## AROUSING INTEREST WITH A TRAVELING EXHIBIT

BY D. W. HOWELL

Finding that I should have a crop sufficient to be of interest, and wishing to secure the best price for it, I concluded to try selling from house to house, and see if I could realize more for my honey. So I hit on a plan of getting the attention of the ladies and children, or any one else who might be interested.

Taking my bees with me, and sample of honey, I started out one bright morning in May, going to a neighboring town. I stopped first at the railroad lunch-stand. The proprietor was very much pleased with my bees, and bought a can of honey. I then went to the dwelling-houses.



The traveling-case closed.

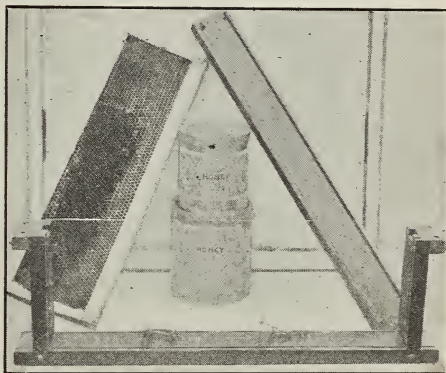
I use a simple traveling observation comb in a case simply made. It is easily taken apart to remove the frame of bees and to clean it. The glass can be removed when the top is taken off, and I always make sure that they are clean and bright before I go off with the case of bees.

Stopping at a house I would get the lady of the house to look at the bees and the queen. I would then show her the honey, telling her about the size and weight of the cans, and also getting her to taste of the sample, with one of the small strips of clean white paper I carried with me for the purpose. In this way I would quite often get an order. I found that I could get 10 to 12 cents for good extracted honey sold in this way, when others could not get any more for good comb honey.

My nearest town each way by rail is ten miles. One has a population of about 1500, the other about 3000. My home town has a population of about 1000. By this plan

I sold in these three towns nearly 3500 pounds of extracted honey. I have a strong competition here in the form of a good home-raised Georgia cane syrup. Many prefer this to any honey. The syrup seldom sells above 50 to 60 cents per gallon—far below honey in price.

Now, if I could do this well in three small towns, and with strong competition, I think it would be an easy matter to sell honey by this plan where there is almost nothing to compete.



The traveling-case dissected.

The last days of October I had occasion to visit a city of 50,000 inhabitants. I had about 200 pounds of honey left; so I concluded to try my case of bees in a larger town. I had no trouble in disposing of all the honey I had left, and could have sold more, all in about one day.

In this place I sold extracted honey at 12 cents per pound and to all classes of people, and only in the business part of the city. I did not visit a single residence during the day. I found that the ladies were my best customers; and to try this out fully I went to several drygoods stores where a number of ladies were employed. They were very much pleased with the bees, and I received more orders for cans of honey than at any other place.

On this trip I carried about one hundred





GLIMPSES OF IOWA BEEKEEPERS—By FRANK C. PELLETT.

1. John Grecian's honey-house of hollow brick. 2. The apiary of John Grecian, Kalona, Iowa. 3. Apiary and honey-house of W. V. Francis. 4. Home of W. V. Francis, Ft. Dodge, Iowa. 5. Auto used by J. H. Schlenker for outyard work. 6. Home of J. H. Schlenker, Ankeny, Iowa.





## GLIMPSES OF IOWA BEEKEEPERS

7. Miss Merta Mitchell, Keokuk, Iowa, uses a tripod and wire stretcher for a combined hive lifting and weighing device. 8. H. P. Morrison, Fayette, Iowa, sells most of his honey from an auto.  
 9. B. L. Scarlett in his apiary at Anita, Iowa. 10. Apiary and honey-house of J. I. Wiltse at Arlington. 11. Home of C. A. Gallagher at Maquoketa. 12. Hon. Eugene Secor and a mock orange in his apiary at Forest City.

of the folders, "The Food Value of Honey." Using them as business cards I had stamped on the back of each, with a rubber stamp, my name and address. These I would give to each one that bought honey, and to others where I thought best.

In using this plan, be sure to have bright, clearly marked bees, and a bright young queen. It is best to have a small amount of brood in the frame, and let it be a frame that belongs to them.

Make sure there is plenty of ventilation at each end of the case, as this will help to keep them contented on hot days more than anything else. My case is built for a shallow extracting-frame  $5\frac{3}{8}$  inches deep, which I find is about right to carry, and can be handled easily. The bees will stand several days' confinement if they are young, have sufficient ventilation, and some honey to eat.

I use several shallow eight-frame extracting-supers as a nucleus to draw these frames from, keeping good young queens in them. I do not carry the same queen with me every time, but give them a rest. By maintaining a nucleus one is able to find the frame best suited for carrying in this way, and have a chance at getting young bees. If the nuclei get too strong, give some of their bees to a weaker colony.

In going around with the bees, be sure to interest the children all you can, letting them look at the bees and taste the honey. Leave a sample where it would appear to good advantage. Samples will often sell some of your honey easier than you can yourself.

You should be well posted on bees, and be able to answer a great many questions that will be asked. The average person knows very little about them, and will ask some questions that will be hard to answer in a way they can understand.

One of the most common questions asked was this: "How did you get the bees in the box?" Many of them had very queer ideas as to how this could be done. Many questions were asked about the queen, and what she did in the hive. Some would have the idea that she is absolute ruler, and would make the remark on seeing her the first time, "Doesn't she make them stand around?" Much surprise would be expressed when they were told that she does not rule the hive, but is its mother; that she will at times lay more than two thousand eggs in a day, and that she is the only bee that lives twelve months or more.

Shellman, Ga.

## THE FACTOR OF CLEANLINESS IN HONEY DISTRIBUTION

BY JOHN W. LOVE

Whenever a housewife in Naples wants a morning quart of milk for the bambino all she has to do is to waylay the milkman as he drives his flock of goats through the narrow streets. The proprietor of the dairy milks the goat, shooting the fluid into any bucket or bottle the customer happens to have with her. The only merit in this system is its cheapness.

It is a long way from the simplicity of the Neapolitan goatherd to the business acumen of the distributor of a trade-marked milk who buys from scores of dairy farmers, maintains a dozen condensaries, advertises in national magazines, and hands his product to you in a labeled can which is attractiveness itself.

The one calls at you from the street, the other buys magazine space to show pictures of "contented cows." You drop a few centesimi to the Italian for a quantity of milk you both guess at. The other milk comes at fifteen cents a can, always the same amount, about enough to make a quart when thinned. In these and other differences lies much of interest, some points of

which may be applicable to the business of selling honey.

One of the reasons for the eagerness with which the public has taken up the trade-marked crackers in preference to those scooped out of barrels is the superior cleanliness of the article put up in packages. The progress toward ultra neatness is part of that greater movement in sanitation which, during the last century, has taken the terror from many diseases and entirely extinguished a number of them. It is part of the same movement which has cut down infant mortality and boosted the average expectation of life. Absolute cleanliness is built into the new civilization. Those who fail to come up to its standard are finding themselves left with the reactionaries and forced out of business.

It is true that honey is now seldom sold in bulk, like vinegar or cider. Only in localities does one still find a beekeeper peddling in open buckets. Indeed, the beekeeper, feeling the dignity of his profession, is dropping the word "peddling" from his vocabulary. But bottles and cans of honey





Poorly built stone road over-grown with white sweet clover self-seeded from that growing by the roadside.—Photo by KARL JENKS, Medina, Ohio.

in doubtful sanitary condition cannot hope to compete with the canned glucose (corn syrup), apple-butter, and maple syrup, which the householder may buy instead of honey.

When the shopper looks over the rows of wares on a grocery shelf, which is she most likely to select—peanut butter in a glass tumbler neatly labeled with a picture of a beechnut with its suggestion of crisp frosty air and autumn woods, or honey in a foggy fruit-jar, sticky with finger-prints? Should that honey come into competition with another brand of the same product put up in clear bottles and trade-marked, the price difference will have to be great indeed to induce the modern housewife to select a more commonplace product.

Comb honey put up in a dust-proof carton suggests delicacy and sanitation more than that displayed in a glass showcase. While the conditions within the case may be ideal, what may not have happened to the honey exposed on a dusty road, or caressed in the hands of the grocer boy?

The public taste for the article suggesting absolute purity you may describe as capacious or discriminating, according to your own temper; but it does no good to call it names. The mood will persist. It is the result of a quarter of a century's agitation by the food scientists, chemists, editors, the

national Government, and progressive manufacturers.

Nor is the use of trade-marking goods by the consumer necessarily a step away from real economy. This may be true in particular cases; but in such articles as whole-wheat biscuits the price and the amount purchased are universal and constant. Where the same things are sold in bulk the purchaser may pay a few cents less; but he buys articles which may be dirty or exposed to the moisture of the air or short in weight. Competition between dealers in the same food, or in foods which compete with one another, like "corn syrup" and honey, keeps the price as low as compatible with cleanliness and reasonable profit. A constant price and a standard weight are substituted for a price the dealer thinks he can get, and a weight which may or may not be accurate, according as the state inspects his measures or scales.

To preserve the superiority of a canned and cartoned article over the same thing in bulk, and at the same time to help lower the cost of living, some manufacturers are putting out what is known as the "family container." Honey distributors are finding it successful with extracted honey. The can will hold five or ten pounds, and in some cases is returnable when empty, with a slight rebate. The price can be held at only

a little more than the same article in bulk. With a label and a trade-mark, together with self-evident cleanliness, all the virtues of the small package are retained. Even ten pounds of honey is not an excessive amount if the cook can be told not to keep it in the refrigerator.

The whole trend can be summed up in a paragraph by Mr. Erwin McDonald in *The*

*Forecast* (New York): "Any going back to old conditions would mean a relaxing of watchfulness, a removal of responsibility, and a consequent loss of all that has been gained. In a pure-food movement there is no looking backward toward unsanitary methods because carelessly handled and unidentified foods cost a few cents less."

## THE FACTORS THAT CONTROL THE PRICE OF HONEY

BY BENJAMIN F. KIRK

Honey "boosting" is just the best ever if properly done; but it must be done at a profit. It may not be that it must yield an immediate profit, but it must show symptoms of an ultimate profit. One correspondent for an American bee journal advocates the reduction of the price of honey in connection with increased publicity. Another suggests that an additional charge must be made to cover the expense of printing posters, display cards, newspaper advertising, furnishing displays for grocery stores, etc. Now, in the light of ordinary business sense, which one is right?

"Large sales and small profits" is a catchy phrase, and many are deceived by it. The trouble is, too many fellows who are doing a 5000 or 10,000 pound business seem to think they are the giants of the honey business. It seems to me that no one handling less than 100,000 pounds annually is justified in thinking he belongs to the "big business" class. If the Standard Oil Co. were selling only a few thousand gallons of oil yearly, instead of millions, the price of oil would necessarily be much higher. If a beekeeper does not get such a price that he can pay interest on the capital invested, depreciation on the equipment, hire every stroke of work done from the nailing of the hives to the selling of the honey, and still have a profit left, his business is a failure. The public will pay the price if the beekeepers demand it and furnish quality goods.

In a large part of the United States the bee and honey business has many uncertainties connected with it. Nearly every year

the beekeepers in some part of the country have to feed to keep the bees going till the next year. This uncertainty has driven some good beekeepers out of the business. But for some reason it rarely seems to affect the box-hive apiarist very much. It's true he's out of business for a year or two, and then he catches a stray swarm or two, and again starts his business of throwing chills up the spine of the neighbor who is trying to make a living in the business. In many ways the correspondent's idea of licensing the beekeepers sounds well; but where would it end? Wouldn't the hog men, the cattle men, and others ask for the same method of eliminating the undesirables, and, at the same time, unpleasant competition?

I do not believe there is one city of 10,000 inhabitants or over in a certain central state that is using the amount of honey that there is a market for. When I speak of the possibilities of a market I mean the profitable possibilities. A town can be worked so frequently and so thoroughly that the last time over will not yield a profit. Along another line of business an old gentleman used frequently to say, "Go slow, and learn to peddle." It takes considerable will power for some people to force themselves to do the house-to-house selling stunt. But it is where the average beekeeper will find the profit. A medium-sized production of honey sold direct to the consumer at the retail price pays more profit than a much larger production wholesale. But it's a good thing for some beekeepers that most other beekeepers are too timid to canvass.

Indianapolis, Ind.

## THE ADVANTAGES OF LARGE HIVES

BY F. A. CONNOR

The tendency for some time among several progressive apiculturists is toward the adoption of a hive that prevents the swarming propensity, gives sufficient capacity for

the most prolific queens, and can be contracted or expanded according to the requirements of the colony. A hive should be adapted to the production of comb or





My colonies in Jumbo extracting hives averaged 100 lbs. of honey.

extracted honey; it should make ease of manipulation possible, interchanging with standard bodies, supers, covers, and bottoms, and successful indoor or outdoor wintering.

Many hives called standard cannot accommodate one quarter of the bees, comb, and honey which in a prosperous season may be found in large ones, while their owners wonder that they obtain so little profit from their bees. It is very evident that profit can be derived from bee culture with almost any style of frame or hive, but it is also an established fact that in every pursuit some conditions produce better results than others under the same circumstances.

The number of frames to be used in a hive depends on their size, for we should manage our bees and give them such space as is necessary to obtain the best results. It is unquestionable that the quality of a queen depends on the quantity of eggs that she is able to lay. Then why limit her by adopting a hive as your standard so small that she cannot develop her fertility? I wish to take the opportunity of again asserting that my preference for large hives is based on an experience of nearly twenty years with hives of different sizes, and various races of bees.

In addition to the disadvantages of small hives, another—greatest and most important of all—is the excess of natural swarming which they cause. The leading advocates of small hives, some of whom are the largest

honey-producers, invariably acknowledge that they have too much natural swarming. The cause is, solely, contracted brood-chambers.

I find that among the manipulations that tend to discourage swarming, especially with the Carniolans, which are claimed to be excessive swarmers, is abundance of ventilation during the honey-flow, obtained by means of a large entrance, protection of the hive from direct rays of the sun, and plenty of storage room. I desire to mention that the hive I have finally adopted is the ten-frame Jumbo. These hives consist of two regular dovetailed Jumbo bodies, Hoffman 11 $\frac{1}{4}$ -inch-deep frames; covers and bottoms, where used for extracting purposes.

One can adopt the Jumbo hive and still keep on using the standard Langstroth ten-frame hive and supers. In my judgment it is of the utmost importance to have a hive which standard supers and covers will fit, and one adapted to bottom-boards; and to such an extent am I an advocate of this hive that I have discarded all other sizes that were in my apiary.

As a non-swarmers, or practically so, when operated for extracted honey, this hive is unsurpassed; and as to the production of comb honey, I find that bees readily enter supers; and it is an ideal hive for purposes of tiering up. The brood-chamber is of such capacity that the most prolific queens rarely venture into supers or extracting-bodies, although queen-excluders are advisable. Colonies retain what nectar is placed





Boulder field meeting, June 12, under a

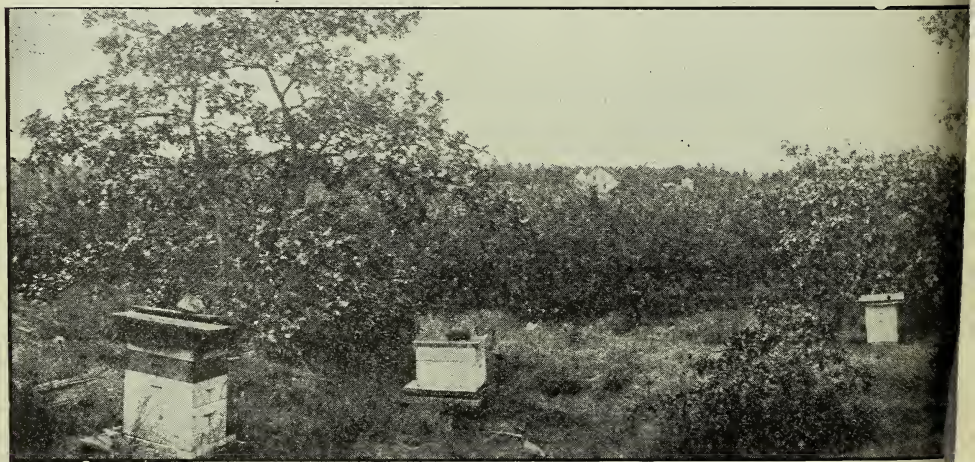
in the brood-chamber. These are ample stores for the most populous. With swarming controlled for the entire season, colonies will necessarily be well supplied with bees to insure perfect wintering.

I wish to impress on the mind of the reader the advisability of the use of large hives. Possibly I have given too much praise to this hive; but let me say here that

one should study his locality very carefully before deciding on what size of hive to adopt as his standard.

As to the race of bees, my preference is the Carniolan. I find that they are a very hardy and vigorous race, breed very early, and queens are very prolific; and as to honey-gathering qualities it is unsurpassed.

Worcester, Mass.



Part of E. Fleming's apiary and orchard, Victoria, B. C. Mr. Fleming's hives show irregularity. The hives





Boulder field meeting, June 12, 1915, of the Colorado Honey-producers' Association.

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Worcester, Mass.

## THE GUM-TREES OF AUSTRALIA

BY T. RAYMENT

### BLUE GUM (E. GLOBULUS).

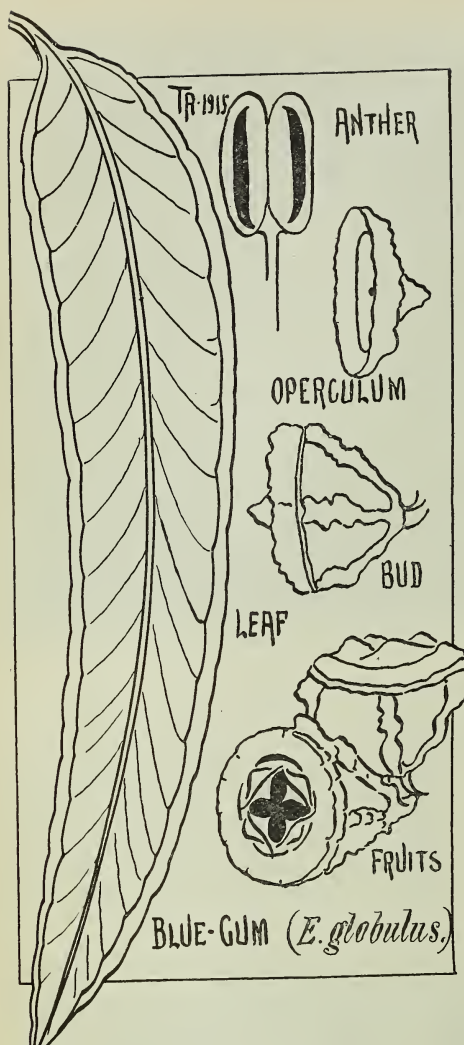
So named from the globular fruits. This tree is well known to Californians, and is most favored by foreigners for planting. It is not a heavy yielder of nectar, but it is splendid for pollen in early spring every

year. The best record the writer is aware of is somewhere about 56 lbs. per colony of amber-colored, rather thin honey, which candies rather quickly. Blue gum grows very rapidly, and coachmakers value the timber for shafts, poles, reaches, etc. It is



Part of E. Fleming's apiary and orchard, Victoria, B. C. Mr. Fleming suggests that this photograph might win a prize, if one were offered, for "artistic irregularity." The hives are almost surrounded by small oaks.





indigenous to Tasmania and the coastal region of Victoria. At Leongatha, Gipps, Vic., there is a blue-gum stick standing that has had the top *chopped* off at a height of 97 feet. These forest giants are usually fallen about twenty feet from the ground, and the axed scarp is frequently large enough to permit a man reclining in it. Like all pollen from the eucalypti, that from the blue gum is creamy in color. It is needless to say the nitrogenous content varies with each species. The slits in the anthers that liberate the pollen grains are shown in the sketch.

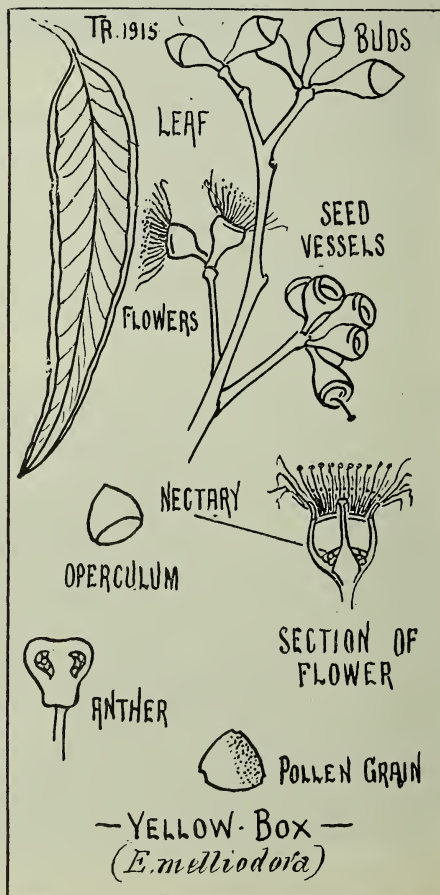
YELLOW-BOX (*E. MELLIODORA*).

From *mel* (honey), and *odor*—scent; therefore “honey-scented box.” It is indigenous to the whole of the eastern states,

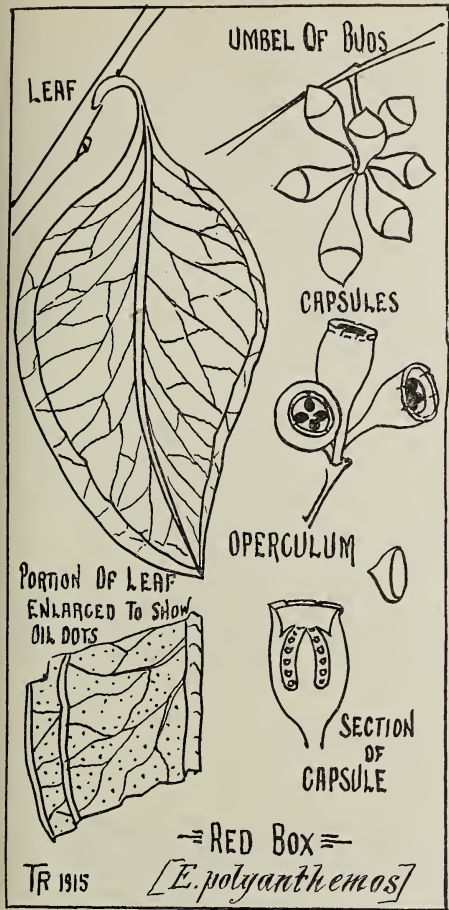
and is a most popular honey-tree. It blooms profusely every second year in early summer, and yields practically no pollen. For this reason, bees in pure yellow-box forest die for want of protein, notwithstanding the abundance of honey, which is pale in color, exceedingly dense, and of delicious flavor. A yield of 350 lbs. per colony is not considered very remarkable. The honey remains liquid almost indefinitely. Where the flats and swamps grow river red gum (*E. rostrata*) the rising land is generally clothed with yellow-box, so that the honey crop is a composite one. Women folks clamor for the hard heavy timber for stovewood. In Australia it is used for poles and railway sleepers. The details in the drawing are variously enlarged. The openings in the anther permit the pollen grains to issue. The nectar surface is depicted in the section of the flower.

RED-BOX (*E. POLYANTHEMOS*.)

*Poly*, many, and *anthemos*, flowers.





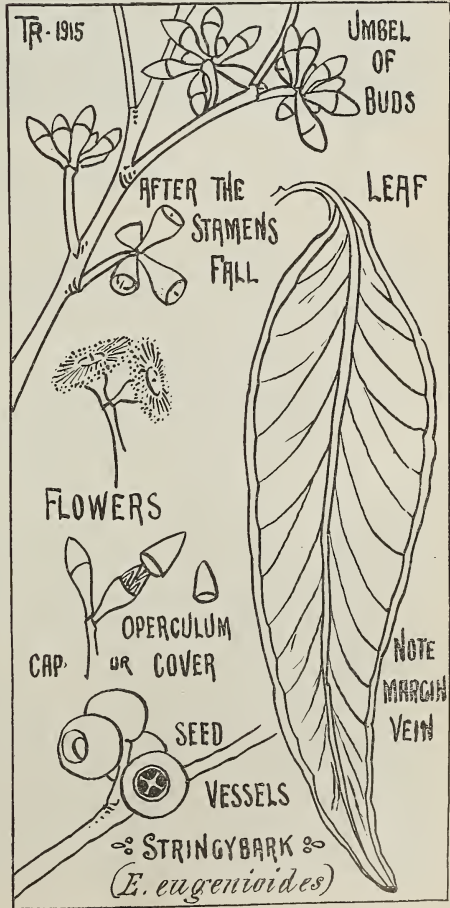


Appropriately the many-flowered box; for every second year the trees resemble giant cauliflowers. The very pale dense honey rarely candies, and is of fine flavor. This eucalypt blooms in early spring, and yields a little pollen and a great flow of honey—up to 150 lbs. per hive—over a period of three months. This species is found chiefly on stony, gravelly ridges in combination with some variety of stringy bark. The timber is ruddy, hard enough to gap the best American ax, and is very dense. It is much sought after for railway-sleepers, bridge-beams, and fence-posts, because white ants (termites) do not readily attack it. The foliage is bluish in color.

GIPPSLAND STRINGY BARK (*E. EUGENIODES*).

This eucalypt favors poor sandy country, and its period of florescence is so prolonged that weak colonies are able to build up strongly and store a good surplus. An apiarist here in Gipps once secured 14 tons from 150 colonies. It is difficult to deter-

mine the normal flowering period, for blossoms may be found in the forest throughout the year; but it is usually autumn (and sometimes right through the winter) when the crop is harvested. As the abundant creamy-colored pollen is rich in nitrogenous proteid the colonies develop in a truly wonderful manner, and are quite as strong in midwinter as in midsummer. It is difficult, however, to extract in the cool weather. The rich amber honey—this species yields the palest nectar of any stringy bark—is so dense that it clings to the extractor-can in thick ropes, and effectually prevents the reel revolving. Colonies are thus always in fine order for the red-box flow in early spring. The flavor of the honey is full and rich, so that other honey tastes insipid in comparison. In the drawing, the operculum, or cap, is shown as it clears the expanding stamens. This characteristic is responsible for the name “eucalyptus,” meaning well



covered (from the Greek, *eu*, well, and *kalypto*, I cover). It is a fine tree for builders' woodwork, bridge-beams, railway-sleepers, fence-rails, etc. The bark is stripped off in sheets, and sheds are covered with it, while many apiarists use a small piece for a hive-cover. It was a tree of this species described by Major Shallard, of New South Wales, in *GLEANINGS* recently. The oil dots, although described under red box, are peculiar to the whole family.

RED IRONBARK (*E. SIDEROXYLON*).

*Sideros*, iron, and *xylon*, wood. This remarkable species is easily distinguished by the bark, which is unlike that of any other tree. It blooms in winter and yields heavily, but the abundant pale nectar is "suspect." Many Australian apiarists associate bad wintering with the ironbark bloom. Whether this is due to the unripe quality of the honey, gathered late, or to some deficiency in the chemical constituents, has not been conclusively demonstrated. The trouble, after all, may be due to some extraneous cause quite distinct from the nectar. It is well known that bees will sometimes fail to visit ironbark, even when the blossom is fairly "dripping" nectar.

The vast majority of eucalypts bear white or cream flowers. There are a few exceptions, and ironbark is one of them, for the flowers are *sometimes* pale pink. The pollen is abundant, and cream in color, and the honey is of good flavor. The timber is red in tint, of great density. It will sink like a stone, and is highly prized for its endurance under stress and strain of all kinds. Ironbark frequents the ranges and flourishes on granite and Devonian rock formations. In this article the possibilities of the eucalypts are only hinted at. The matter is more fully dealt with in my book, now in the publisher's hands, "Australian Honey-plants and Bee-farming."

There is another item of interest—the trees of this family generally hold the buds for about 12 months before blooming. Furthermore, the nomenclature is confounding. Ironbark in Victoria becomes spotted gum, or blue gum in the adjoining state—hence the value of specific names.

Briagolong, Victoria, Aus.

[*Editor's Note.*—This is the second of a series of three articles by Mr. Rayment on certain important pollen and nectar yielding plants of Australia. The concluding article will appear in the next number.]

## FINDING THE BEE-TREE

BY E. E. COHEN

While in a reminiscent frame of mind one day lately, my thoughts wandered back to the happenings of my boyhood days, and memory recalled the unfading picture of a most fortunate finding of a monster bee-tree by mere chance.

A skilled bee-hunter had made a long and careful hunt for it. He had located the tree as one of a thick clump of giant hemlocks. He had searched each tree carefully with his still keen eye and spyglass for bees to indicate the entrance, but in vain, and had declared the entrance impossible to find because of the heavy shadows of the dense tops and interlacing boughs.

The scene of my exploit was in Sheldon, in the western part of New York, where my father owned a farm at that time. I was then fifteen.

One warm day in early September, 1859, the thought came to my mind to go out to the woods about a mile and a half away, and look over the big hemlocks for the un-found bee-tree. I started at once, and was soon in the timber where I had seen and followed the old bee-hunter in action. I had noted the trees that he had examined as most likely ones, where the beelines inter-

sected, and these I at once proceeded to inspect closely. I could examine only the west side of each tree because of the approaching sunset. Having examined several trees closely without result I moved on to another, a big fellow about three and a half feet further through, when, presto! looking up some seventy or eighty feet from the ground I saw in a little patch of sunlight a sight that set my nerves tingling, and caused me to throw my hat up in the air and fairly shout to the echo of the woods, "There they are!" and there they were, sure enough, very plainly flitting in and out at the entrance, and many prancing about in all the glee of young bees enjoying a sunshine bath. It was undoubtedly the only time of the day when the sun could shine upon their entrance, hence their gambols that gave them away.

Not much grass grew under my feet on my way home with the glad tidings. With my father and a neighbor to help me the tree was downed early the next day, and the honey secured. After handing out a full supply to the onlookers and to the party who helped us, the net proceeds of extracted honey filled an eight-gallon jar.



## A HONEY-SIGN AND WHAT IT SIGNIFIED

BY J. L. GRAFF

I first saw the sign on the telegraph-pole, and from that hunted up the scene of honey-making operations. Robert Kroschel, who owns the outfit, is shown in one of the pictures. He lives in the heart of Chicago, but in the outskirts he rented the wired-in patch of land for five dollars a year. Some little distance away he put up a workshop where he does all of the work incidental to his prairie apiary. He was induced to locate in the vicinity because of the large amount of clover and goldenrod. He has 43 colonies in modern hives. As most apiarists know, last year was a bad one for honey; but he got about 1000 pounds. From some of the colonies in other years he has received as much as 160 pounds each. In winter the hives are well packed, but have no cover other than that shown in the picture.

One of the points that ought not to be overlooked is the utility of the neat little sign on the telegraph-pole. That little board got him customers that took most of his honey, and he sells all of it. The sign is located at the junction of two great highways, and trade came to this apiarist from all directions.

Kroschel has good honey-making stock. His workers are gentle; he makes use of the Italian three-banded queen. This apiarist lives five miles from his apiary; but up to



A sweet and effective by-use of a telegraph-pole.

this time no one has ever disturbed it in his absence.

Chicago, Ill.



The apiarist and his apiary.



Pear blight entered the growing tips of the blossom.

## PEAR BLIGHT OR FIRE BLIGHT

BY DR. H. A. SURFACE

During the present year there is an unusual manifestation of pear blight or fire blight on apple, pear, and quince trees, from the Mississippi River to the Atlantic Ocean, and from the central portions of Illinois, Indiana, Ohio, and Pennsylvania, southward to Alabama.

This disease makes itself manifest by the death of the leaves, fruit, and bark of the infected apple, pear, and quince trees. It is given various names such as pear blight, fire blight, leaf blight, black blight, black twig, black flag, black leaf, twig blight, canker blight, body blight, bark blight, trunk blight, collar blight, and collar rot. In the last-named form it is by all means the most serious and destructive enemy of our fruit-trees because it works around the collar and roots of the trees, and cannot be headed off nor cured; and when it girdles the tree the latter dies.

This is a bacterial disease that enters through the tips of growing shoots or through blossoms, or through any part of a living leaf, fruit, stem, twig, or bark that may be injured by the puncture of an insect or otherwise that will thus permit the entrance of blight germs. When the germs

once get inside the bark they spread both upward and downward through the cambium or growing layer, and cause the bark to turn black and the wood to become brittle. A blighted twig is often seen broken and hanging downward.

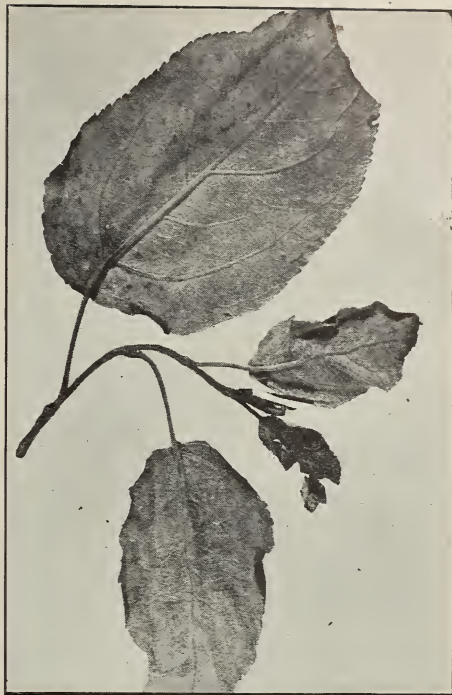
The bacterial germs spread much more rapidly in fruit-trees that have grown rankly. This is doubtless because the wood is more porous and the sap ducts are larger, and admit the passage of the germ more readily in the pores of thickly grown wood. It is conspicuously true that wherever trees are grown in very fertile soil, or have been fertilized with barnyard manure or other nitrogen fertilizer, or have been cultivated considerably to make them grow, there, as a rule, the blight is greatest this year. This means that for these trees that are subject to blight it is best for the orchardist to practice such methods as will reduce the amount of vigorous growth. Among these are light summer pruning, seeding down with a cover crop like crimson clover or rye, avoiding cultivation and nitrogen fertilizers, and applying only fertilizers containing phosphoric acid and potash if any.

Unfortunately the only real remedy that



has been proposed by fruit-growers is to cut out and burn the blighted parts. The cut should be made at least a foot below each of the lowest blighted places. The cut stub should be sterilized by washing with anti-septic material such as lime-sulphur solution or corrosive sublimate in water. It has been proven by experiments that it is not necessary to paint the dry stub with a protecting paint as it will heal, or, in many cases, is as well without it. The infected trimmings should be carried out of the orchard and burned.

The important point to beekeepers is the means by which the germs of blight reach the trees, or, in other words, by which the trees become affected. It has been alleged that bees are responsible for practically all the dissemination of blight germs, while the fact remains that the air is full of such germs, and they may enter the trees at one place as well as another. Ants crawling up and down the trees carry the germs in great numbers. Plant lice or other insects puncture the trees or growing shoots, and the blight germs enter there. Wasps, flies, and various other insects are just as liable to carry the germs of the disease to blossoms as are bees. Even if the bees should be carriers of the germs causing pear blight, the quantity of the disease that the bees



Twigs once in healthy condition.



Pear blight entered the growing tips of the shoot.

carry is very small in comparison with that conveyed by other means; so that if it were possible to stop all the honeybees from carrying pear blight, the dissemination of this disease would be practically as extensive and as speedy as it is at present.

One of the photographs shows blossoms where the blight germs entered and killed the branch. The others show twigs that are dead from blight that were once good and healthy, and in vigorous condition when the blight germs entered and destroyed them. While it may be argued that the bees carry the germs to the blossoms, it cannot be proven that this is not done by other means. Yet, on the other hand, no one would even dare argue that the bees carry the blight germs to the new shoots without blossoms. Therefore, it is unjust to say that wherever a blighted fruit-spur is to be seen, this was due to the activity of the bees any more than to say that the blights of other parts of the tree were due to the same causes.

It is possible that many trees may recover from the blight; but many others will continue to carry it over the winter and from year to year. The best way to get rid of such disease is to be prompt in cutting it out, and cut from six inches to a foot below the lowest blighted area.

Harrisburg, Pa.

## THE HOME-BUILT TRACTOR

### It may Often be More Efficient than the General-purpose Tractor

BY XENO W. PUTNAM

The gasoline-engine is the wonderful chore-boy of the modern apiary, farm, and household, wherever power is needed in such small quantities or at such irregular and brief intervals of time that steam power would be out of the question, and in places where electricity is not as yet available. It is a specially useful chore-boy in the performance of those tasks wherein the source of power must frequently shift from place to place, perhaps doing some of its work while in the act of shifting.

For the latter purpose it is none the less a legless chore-boy whose usefulness is seriously impaired by its crippled condition. Faithful and powerful as it is when set up and belted to its tasks, in the interval of being conveyed from one to another it becomes a helpless mass of iron that must be wheeled or hauled or carried about by some other source of power, all because even the least of the excellent small power tractors now upon the market are still too heavy, cumbersome, and expensive to be useful in any but the largest apiaries.

In a good many cases the apiarist feels that he is unable to afford more than a single source of power. The gasoline-engine seems perfectly adapted to his varied and intermittent tasks of running a rip-saw, a buzz-saw, planer, lathe, separator, pump, or any of those innumerable tasks which are too quickly over for the employment of steam and too back-breaking to be comfortably done with human muscle. For such work, horses are not very available excepting through tread power. Still, horses are usually required to move even the small power gasoline-engine from place to place occasionally unless we are willing to tote all of the varieties of work by hand or by horse power to the engine. Not every apiarist feels able to keep both a team and an engine. There is always more or less danger of accident, too, in the working of even the steadiest of horses among the gentlest of bees. The power that the apiarist really needs is something that, like the gasoline-engine, can be made to develop from one to three or four horse power at the belt without any preliminaries in getting up steam; a power that is ready for the work whenever the work is ready; something that does not cost much more than a single horse—certainly not more than a team; that can be diverted in a moment from belt to draw-bar usefulness; something that may be tak-

en right among the bees if necessary, and left to stand any place by the hour without any fear of stings or danger of runaways.

It has been recently announced that a new gasoline-tractor is soon to be put upon the market at a cost of about \$200. This, when it comes, will be a godsend to the big apiarist and small farmer. The man with a hundred or so colonies, a big garden, and a few acres of general farm ground, will still in most cases feel compelled to get along piecing out the work of his less expensive little stationary engine by the sweat of his brow. Then there are men who already own a gasoline-engine that is all they can ask at the belt—men who cannot afford two engines, and who do not care to give up the one they have. For all of these men the home-made gasoline-tractor, which can be made at little cost, and out of almost any engine, fills the bill as nothing else can do. All the more is this true because the home-built tractor may be so constructed that it will be specially adapted in every way to apiary work. Home-made tractors are not intended as rivals of the factory-built machines; still, they may often be made to serve out some special mission far better than the general-purpose tractor. They also have the advantage of being available in many apiaries and small farms where even the cheapest of tractors could never be afforded.

In preparing the manuscript of a book upon this subject it was recently necessary for the writer to communicate personally with more than one hundred home-tractor builders, not any two of whose rigs were exactly alike. In fact, the very range and variety was one of the best proofs that the specially constructed tractor can be made that will fit into almost any niche the builder wills. In range of power the engines in these rigs run from one-horse to forty, and in cost from one dollar (outside of the engine and personal work, of course) to \$1260, the latter being designed for special work for which no tractor upon the market served the purpose of the owner so well. Practically every style of engine was utilized—air-cooled, water-cooled, vertical, horizontal, two-cylinder opposed, twin cylinder, single cylinder, and multi-cylinder. In one instance an auto engine was lifted out of a light auto buggy, and, at an expense of less than \$5, mounted in a big harvesting-machine and made to cut 800 acres of wheat



without the aid of a single horse. Another tractor builder has succeeded in constructing a home-made machine with which he does all of his work, light and heavy, on a 200-acre farm without horses. These generalities are enough to prove that no apiarist need feel discouraged or doubt his ultimate success, if his work is well done, no matter what the size and style of his engine or what purpose he requires of his tractor.

A good many home-made tractors have been featured more or less of late in various farm and other papers; but the details of construction have been in nearly every case too meager to be of much assistance in the building of even a similar rig. In this series

of articles it is proposed to tell the "just how" of home-tractor building with as much detail as possible, and still make the directions general enough to apply to all engines. Where necessary, working drawings and illustrations sufficient to make all of the steps plain will be given, particularly in relation to those parts which render a tractor of special value for work among the bees.

Harmonsburg, Pa.

[This is the first of a series of three articles by Mr. Putnam, entitled "The Home-made Tractor." The second will be published Sept. 1.—Ed.]

## A FEW REPORTS ON THE VALUE OF ASTER HONEY FOR WINTER STORES

### Frequent Flights Make Wintering on Fall Honey Successful

BY SARAH A. GRAVES

My bees are in double-walled hives, packed with sawdust. I use one chaff division-board and tray of shavings for winter. They are quite well protected on the north and west by outbuildings, trees, and shrubs.

We have a large yield of goldenrod and aster honey. I have found the bees late in the fall working on asters a mile from home. They worked on asters last fall till killing frosts, and went into winter quarters very strong in bees and stores. They had a good flight Dec. 7. Then followed a month of very severe weather, said to have been the coldest December in this section for forty years. On Jan. 7 they had another good flight, another one early in February, and frequent ones from then on. The strongest colonies lost scarcely a handful of bees, judging from entrance indications, and the others very few.

March 24 was the first day on which I saw pollen carried into the hives. On May 8, the first suitable day on which I was at liberty to give the hives a thorough examination and clip queens, I found two colonies with six frames of brood, three with seven, two with eight, two with nine, and one with ten. The last one had several sealed queen-cells, and two others had cells started. I found an unusual quantity of drone brood. Combs that were nearly perfect last season had drone-cells built in every conceivable place, even a few cells right in the middle of the frame.

Last season one cutting of cells in my best colonies stopped swarming for the rest of the season. This year I am cutting cells

every week, and yet I have already had four swarms, and the rest of the ten are going to follow suit. I can't understand why they have developed such a swarming mania, because, with the exception of a day now and then, the spring has been unusually cold, with more than our ordinary amount of rain. They have all commenced work in the supers.

I have one queen which is a living witness of how much a bee can endure. In June, 1913, I attempted to cage this queen, then about a month old. With the blundering awkwardness of a beginner I pressed her against the comb, injuring her diagonally across the upper part of her abdomen. I thought she would surely die very soon, or that the bees would kill such a cripple. But she is living yet, and has proved my best queen. Her hive is always running over with bees, though she has no more brood than many of the others. Her bees proved good honey-gatherers and showed no inclination to swarm till this spring. They swarmed twice, and returned while I was away.

When I had a chance to examine the hive I found the bees worrying and pulling at the queen. I located her by her squealing. I at once put the frame in another hive. The bees drove her out of the entrance on the grass as fast as I could open the hive and put her in, till I fastened them in. In a few hours they had quieted down and she was back on the comb busy laying. She was not failing, for her hive was full of brood in all stages. She now has all the brood the nucleus can care for. By keep-

ing her in a nucleus I hope to keep her living all this season.

#### HONEY REFRIGERATED.

Last June I sold a woman a section of fruit-bloom honey. In September I made another sale to her. At this time she told me she had just taken the other honey out of her refrigerator, where she had kept it all summer. She did not notice until she

took it out that the carton read *not* to keep in a refrigerator. She said the honey was uninjured, for all she could see. But she said she wouldn't risk any more.

Three Rivers, Mass.

[Evidently she had a good refrigerator in which the ventilation was so ample that the air was dry. The dampness in the average refrigerator is what injures honey.—Ed.]

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## SUCCESSFUL WINTERING ON ASTER HONEY

BY J. F. KIGHT

As is generally known, the honey crop in Indiana for 1914 was a failure. Honey became so scarce in my twenty-five colonies in August that I bought 300 lbs. of granulated sugar at 8 cents, and commenced to feed about one quart to the colonies daily outdoors. Soon the queens had most brood-combs full of eggs and larvæ. By the middle of September the hives were boiling over with young bees; but I do not believe there was 50 lbs. of honey in all the twenty-five colonies. Fortunately I yet had some of my eight-cent sugar left when the white aster came in full bloom. To my surprise the bees refused any more sugar syrup, preferring the aster.

As each colony was unusually strong in young bees, what they did to that aster nectar was a sight. They filled every available cell, crowding the queens until, by the time the flow ceased, each hive seemed as heavy as that much lead. I do not believe there was a pound of any kind of honey in my whole apiary except white aster. In early November it turned cold, and my bees

were packed in leaves with the single telescope cover until they were ready for almost any kind of winter weather.

My fear as to the results of the aster honey gave me a chill. I thought I would have only beeless hives full of aster honey in the spring. To increase this fear, when my bees did not get a cleansing flight from late in November to February 11, I felt sure I would have no bees left.

To my surprise, on Feb. 11 each colony showed signs of life, and all had a cleansing flight. My bees came through the long and cold winter in better condition than I have ever had them in my thirty years of experience in bee culture. I did not lose a single colony, but had four weak ones queenless on April 10.

To sun up, I firmly believe if bees are plentiful in the hive, can have plenty of time to ripen the honey, and are well protected on the summer stands, there need be no fear from aster honey.

Indianapolis, Ind.

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## DRY LOCATIONS DIMINISH WINTER LOSSES

BY W. C. FLEMING

Bees filled up heavily last October on aster honey, and I was very much pleased, as I had never had any trouble wintering on this honey, neither had I ever heard of any objections to aster honey as a winter food in this latitude. Bees get a flight almost every week during the winter months.

I have my bees in two yards, one at home and the other a few miles east of home.

My home yard of eighty-five colonies is located in a rather thick pine grove with heavy woods on the north and west. Little sunshine or wind gets to them, and the ground is rather low and wet.

In this yard my loss was rather heavy for North Carolina. I lost seven outright, and more than a dozen were very weak and al-

most worthless when spring came. They showed spots along the front of the hive, telling plainly that dysentery was the trouble. My other yard east of home wintered perfectly, not a single loss, nor could I detect any sign of dysentery.

Both yards wintered on aster honey wholly, and all hives were well filled in both yards. Now for the difference. My home yard where the loss occurred is heavily shaded, and, on low ground, became very damp. The other yard where there was no loss stands out in the open where all the sunshine and wind can get to them. Hence they wintered in a dryer condition.

Greensboro, N. C.



## THE PERENNIAL WHITE ASTER IN WINTER STORES

BY D. W. TAYLOR

For seven or eight years I have had from six to twenty colonies in Louisa County, Virginia. This is in the Piedmont region, about 500 feet above the sea—a poor location for spring honey, as white clover usually fails, but with large quantities of aster and a good deal of goldenrod. The aster is the variety with white petals and yellow center—the kind I see everywhere in the East, a perennial growing well on sour land, about two feet high on poor land and four feet on good land.

At the same time as the aster, there is available a large quantity of goldenrod of the short-branch headed variety which my bees seldom or never touch. The tall-growing single-spike headed variety is fairly abundant, and they work on it freely.

Usually my bees are quite light by September, but during the aster and goldenrod

season they work diligently and the hives get very heavy.

I winter on the summer stands, simply contracting the entrance and putting a super full of leaves on top of the hive. I have had single and double Danzenbaker hives and ten-frame hives.

My winter stores are always mainly aster, I feel sure, because the bees work very strongly on it, and when it is coming in one can smell the odor a hundred yards away.

I have never had the slightest trouble with wintering—never lost a colony by dysentery or anything of that nature. Once or twice I have failed to winter a colony or two, but am sure that they were not queen-right to start the winter. Of course, in my locality bees are able to fly a number of times during the winter.

Washington, D. C.

## ASTER PUTS THE WIN IN WINTER

BY C. F. BUCHER

I always look to the asters to build up my colonies for winter. They have sometimes built up so strongly from aster that I have had a few swarms. I have seen four or five frames of brood the first of October, and every one knows what that means—a pile of young bees for winter.

I have wintered from 20 to 40 colonies, and have not lost half a dozen in sixteen years. One winter in this time they went to bed November 10 and never got up until March 5. I began to feel a little uneasy about them. Of the thirty that I wintered that year only one was dead, and I got the largest crop of honey the season following that I ever harvested.

I never saw any aster honey amber in color

except when it was mixed with goldenrod. It is seldom that one gets aster honey in its pure state; but last year and four years ago I had no honey any lighter in color than that from the aster, nor any heavier in body. It was so thick that it was very hard to cut out of the sections on a cold morning, and when the weather grows cold one can hardly cut it at all.

Last year we sold 500 sections and 200 pounds of extracted in less than ten days, all from aster, and it was so light that it looked like white-clover honey.

In this locality we have the white aster. J. L. Byer says the aster with him is blue or purple.

Underwood, Ind.

## WHERE ASTER WINTERS WELL

BY RAWLEIGH THOMPSON

Our bees came through the winter in excellent condition with a few exceptions. Out of forty colonies two are weak and two died—due to failure of queens, I think. Both were young queens, but they did not breed up last fall as did the others. On account of the prolonged illness and recent death of my aged parents, with whom my son and myself were living, our bees received little attention in the fall and spring.

For winter stores the brood-frames were

almost solid with aster honey, gathered mostly from a weed that our Pennsylvania Germans call "Basum-reisich." It begins to bloom here about the middle of September, and continues until severe frost kills the plant. Sometimes the flow from this weed is abundant, last fall our bees making considerable surplus.

Not for the purpose of getting into print, but in view of what the editor, Dr. Miller, J. L. Byer, *et al.*, have to say about aster

honey, I may add that in this locality we depend on the late fall honey to carry our bees over the winter. Generally speaking, during July and August bees cannot find

enough to make a living. As a rule hives are very light by the time the fall flow begins. Sometimes it is necessary to feed. Littlestown, Pa.

## WINTERING BEES ON PEPPERMINT CANDY

BY W. H. WEBB

Our bees wintered on aster honey, for this is our only fall flow here. I never have any trouble with dysentery. When we put our bees up in the fall we put a box of peppermint stick candy over the brood-frames and cover the candy with a piece of cloth and an empty super filled with tow sacks. The bees seem to eat the candy in preference to the honey.

I have been using peppermint candy several years for wintering, and it has proved successful. I don't know what the

candy contains that prevents dysentery or pollen-clogging. I believe it is better than the other candy. I should be glad if other beekeepers would try this method and find out what the results will be.

We went in for the winter last fall with fifty colonies, and we lost four stands on account of the mice cutting them down. It was our fault by not closing the entrance. All the rest came through in good condition this spring.

Roanoke, Va.

## ASTER HONEY NOT NECESSARILY FATAL

BY ARTHUR C. MILLER

Aster honey does not cause trouble when a stock has lots of young bees *and brood* late in the fall. But it and sugar syrup given late both are disastrous. I saw a number of good stocks dead on syrup fed *after* the first or second severe frost. Bees were all worn out. Hereabouts feeding is usually deferred until after frost. It is all right to a limit when the stock has brood

and young bees, but I am now satisfied that other practices will be better—for instance, giving combs of sealed stores or candy.

I believe it will prove a gain to have a few stocks in summer kept busy filling combs with syrup purposely for fall use. I have to use a boiled syrup with tartaric acid in it, but even so it will pay.

Providence, R. I.

## WINTER STORES IN JUNE

BY WILLIAM CRAIG

Almost every one differs in his way of feeding bees. I am using a ten-frame Langstroth hive. During the white-clover or basswood flow I take off as many supers filled, and all capped over, as I have hives of bees. The supers are just the same size as the hive-body. The super contains ten frames, the same as the body below. I set these away in a room in the house, and keep them until about Oct. 1, or until brood-rearing has ceased.

I now load on the wheelbarrow one of these supers that I have stored away, and begin at No. 1. I set the hive containing the bees to one side, and set the hive filled with honey on the stand. I take out one of the frames that was filled with honey, and leave it at the house to be extracted.

I now take a frame from the hive that I set aside, and shake the bees all down in front of the hive that rests on the stand, and continue to do so until the bees are all

shaken off. This hive now contains nine frames all filled and sealed over. The nine frames are spread to an equal width, and a section tacked on top to keep them from shifting around. If I wish to move them around after the bees have gone in, every colony is fixed just the same.

I then take the frames that contained the bees and extract the honey out of them. Some of the hives would have scarcely any honey in them, while some of them would have had plenty to winter on, but I don't like to take any chance. Some may think this is a costly way to winter bees; but I think, taking all things into consideration, it is just as cheap as some of the other ways of feeding. I have done much feeding in my time and it has always looked to me as though the bees were wearing themselves out considerably during the process of feeding.

Aitkin, Minn.



# Heads of Grain from Different Fields



**The Backlot Buzzer**

BY J. H. DONAHEY

*Boss, I always hear you talkin' 'bout de queen. Where am de King?*

## Kansas as a Bee State

I have been a reader of GLEANINGS for two or three years, but do not recall in that time ever having seen any mention or communication of or from Kansas. While this state is not so old as California, Ohio, New York, and other states in bee culture, yet, as in many other respects, "Kansas is to be reckoned with." I have no statistics before me; but for more than twenty years past a considerable quantity of honey has been gathered, especially in the western half of the state. In fact, while there is more or less Colorado honey shipped in, yet a considerable shipment each year goes out of Kansas.

Garden City is one of the best local centers of the bee industry in the state. Within a radius of ten miles of Garden City there are perhaps nearly two thousand colonies at this time. The swarming season began about the first of June, and is now practically closed. The increase has been quite large this season.

Our best and most productive honey-plants are alfalfa and sweet clover. Both produce a fine white honey, and of the finest of flavor.

Yes, Kansas as a honey-producing state in the future will, in our judgment, make rapid strides. If this little note finds its way to the readers of GLEANINGS, Kansas may be heard from again.

The writer handles some 40 colonies of bees as a matter of recreation, as it were, from the more confining duties of office work.

Garden City, Kan.

B. F. STOCKS.

[There has been not a little said in these columns concerning beekeeping in Kansas, especially

in regard to sweet clover, which has begun to make its way on the uplands where alfalfa could not be profitably grown. In late years alfalfa and sweet clover both have been making rapid headway over the state, and naturally with them go the keeping of bees. It is but fair to say, however, that conditions in and about Garden City are probably more favorable than in most portions of the state.—Ed.]

## Where the Moth does Not Corrupt

Under "Care of Comb Honey," page 11, Jan. 1, Doolittle advises storing honey at a temperature of 80 to 95 F. He says, "The supers of sections should be separated so that the warm air can circulate freely all through."

Now, he undoubtedly meant that this wide-open exposure of the supers to get all possible ventilation should be done in a moth-proof room, as otherwise the wax-moth, ever on the alert, would soon create havoc with the exposed sweets. But he does not say so, and I fear that, unless warned, some of the uninitiated may not think of this danger, and suffer thereby.

My own plan for keeping comb honey in hot weather that I have found very successful and inexpensive is this: I pile up the supers of honey anywhere in the honey-house, with a double thickness of burlap between the supers, supplemented with a sheet or two of newspaper over the burlap. The newspaper takes the drip, if any, from the super above, and obviates a "mess." I am always careful to pile up supers of the same size together, that no little space be left open anywhere that would admit that very sleek and slippery hunter Mrs. Moth.

From time to time I examine my supers of honey thus stored for a stray worm or two that may have hatched from eggs deposited while the super was on the hive.

Manawa, Wis.

E. E. COLEN.

[In most well-regulated apiaries in the North, especially where pure Italians largely predominate, the bee-moth is almost entirely unknown. Supers of comb honey under these conditions can be stored as Mr. Doolittle directs. Where, however, black bees are pretty common, we may also expect bee-moth. This is particularly true in many parts of the South. It is then that the supers should be protected.—Ed.]

## 46 Swarms from 29 Colonies

We have had a fairly good season, and the bees are now working lively, but my crop of honey will be very much reduced on account of excessive swarming. I have had 46 swarms from 29 colonies. Last year I had only four from 31 colonies, which, as you will see, was quite a difference from this year's swarming. I have even had a second swarm from one of this year's swarms hired in a ten-frame chaff hive—something that I never had before—and the said hive is now literally boiling with bees again. One colony that did not swarm this year is now working in the fifth super. This is the best that I have ever seen for building up colonies. We are now having a grand rain—in fact, we have had plenty of rain for the past two months and a half; and if the rains continue I may yet have a record year notwithstanding so much swarming.

Glyndon, Md., July 15. WALTER E. ATKINSON.

## Kerosene to Stop Robbing

We noticed on page 648, 1914, Mr. Plummer's plan to stop robbing. We tried a similar plan a few weeks ago in our queen-rearing yard. Excessive rains daily for three weeks left all colonies and

nuclei on the verge of starvation, and they had to be fed until favorable weather permitted the bees to gather nectar.

All queen-rearing nuclei and some of the stronger colonies were being robbed as soon as we put on the feeders. After spraying kerosene on the alighting-boards and entrances, leaving enough space unsprayed for the bees to get in and out, we inserted a Porter bee-escape in the entrance of one nucleus without spraying kerosene. In less than 24 hours nearly every robber bee was caught in that one nucleus, and they stayed there, too, defending the new home from the few stray robbers that were left. All colonies and nuclei that were sprayed with kerosene were not bothered, the robbers just hovering around a minute or so.

The odor from the kerosene kept the bees in the hive for a time, but they seemed to defend themselves much better, probably on account of the number of robbers being diminished. No need to use hay or grass. We simply reduced each entrance to one bee-space. We have used the above plan several times since, and it proved successful in each instance.

New Albany, Ind. WALKER & MARZIAN APIARIES.

[Kerosene has been mentioned before as a preventive of robbing. We should, however, be a little careful about relying on it. Where robbing is badly under way it would probably not have very much effect. From reading your letter we are more inclined to think that your bee-escape robber-trap caught all the robbers and therefore stopped the robbing, and not the kerosene, for the simple reason that there were no robbers at large to annoy the nuclei.]

One of the most reliable and effective means to stop robbing is to use the robber-trap. Usually not more than one or two colonies are involved. Remove the robbed hive and put the robber-trap in its place. In fifteen minutes all will be as quiet as if nothing had happened. We would place more reliance on the robber-trap than on kerosene, although we know the bees do not like the smell of it; and a little sprinkling at the entrance has a tendency to drive away intruders, while it does not necessarily keep out the inmates of the hive.—ED.]

### A Virgin Queen Leading a Swarm Out and a Laying Queen Remaining in the Hive.

Something occurred in my apiary that I never heard of before. I put a queen-cell in one last week and looked for her yesterday. She was laying well, when in about three hours a fine swarm came out. I wondered what was the cause. After the swarm had settled I looked in the hive for queen-cells and found the laying queen in the hive. I looked on the swarm and I found a virgin queen which I caged. In a few minutes the swarm came back to the hive.

I was always under the impression that the laying queen always led the swarm out. What was the cause of the two queens in the hive, one laying and virgin leading the swarm out?

Koanoke, Va.

HENRY S. BOHON.

[There must have been another cell in the hive that you overlooked when you supplied the colony with a queen-cell. The one you furnished was probably older, and hence hatched out first. The younger cell, shortly after, hatched its virgin; and when it went out to mate the bees went with her, the laying queen remaining in the hive. As a general rule, however, the laying queen would have gone out with the virgin also.]

It is not true that the old queen is always the one that goes with the prime swarm. When cells are due to hatch, the swarm will usually issue, and with it the laying queen. A second swarm might have several virgins, provided they were in the hive; and a third swarm might have also one or

more virgins from cells hatched later. There is no invariable rule about swarming.—ED.]

### A Late Indiana Report

I have kept bees for twenty years, and have never seen a year here like this. It was so cold and wet in early spring the bees missed the early flow, so they have been on the edge of starvation ever since. I have been feeding twenty-eight colonies for six weeks. The young larvæ starved in colonies extra strong.

Our main flow is from the bluevine, which is just coming into bloom. But it is raining almost every day, washing all the nectar from the bloom. White clover looks promising for next year; but it seems to bear no nectar, neither does the alfalfa in this locality.

I must mention a large colony taken from a tree Nov. 9, 1914. I did not get the comb nor the honey—only the bees. They were hived in a Danzenbaker super containing cull sections of honey gathered from white asters, half of it unsealed. The bees wintered nicely out of doors and built up earlier in the spring than the rest of the colonies. Do you think the fence separators were of any benefit in wintering? I am inclined to think that if we would remove two combs from our brood-chambers and place a slatted fence between each comb for winter it would be better for localities where dysentery causes trouble.

Bloomfield, Ind., July 10.

JOHN M. WOOD.

[There is probably no merit in fence separators for wintering, beyond the fact that they separate combs a little further apart, thus giving a little better clustering room between the combs. It was formerly the common practice to separate the combs a little further apart just before packing for winter; but that practice has practically disappeared. The tendency nowadays is to let the colony alone. Too much tinkering with nature is sometimes disastrous.—ED.]

### Hitting the Vital Spot

I have read in GLEANINGS and other papers that bees cannot sting each other except in certain places. I am sending two bees. Upon examination you will find that one of them has stung the other in the middle or second joint of the front leg.

A friend brought the bees to me, and said that he saw the bee sting the other, and that it killed it almost instantly.

Bristol, Tenn.

A. H. GOODMAN.



The bee on the left was killed by a sting in the second joint of the front leg.

### Sweet Clover, 70 Acres; Buckwheat, 20 Acres

We have 12 acres of sweet clover this year, and we sowed 70 acres this spring.

I am mostly an orchardist, but I take care of our bees. I think horticulture along beekeeping lines is bound to be developed to some extent in a practical way some time. At any rate, I am quite interested in some honey-plants. We had ten acres of Japanese buckwheat last fall. We got no surplus, but all hives were filled. It seemed not to yield honey very well. We got 25 bushels per acre, and 90 cts. per bushel, which made it our best crop last year. We have just sowed 20 acres this summer.

Danville, Iowa, July 7. WENDELL P. WILLIAMS.



A. I. Root

## OUR HOMES

Editor

Apply thy heart unto instruction, and thine ears to the words of knowledge.—Prov. 23:12.

Buy the truth, and sell it not; also wisdom, and instruction, and understanding.—Prov. 23:23.

Mr. James G. Gray, who was for many years foreman of our manufacturing establishment, died early on the morning of July 15; and I think it may be interesting to the readers of GLEANINGS to go over with me the events of a busy life that ended only in death in the 55th year of Mr. Gray's age.

Our readers will pardon me *once more*, if, in order to make this a continuous story, I repeat, or partially repeat, some things that have been given already on these pages. I was perhaps eight or nine years old when Mr. Gray came to Mogadore, Summit Co., Ohio, to teach penmanship and ornamental drawing. I think he was about eighteen at that time. His wonderful penmanship created a stir in our little town, and his ornamental drawings *were* a wonder. In fact, people would have been tempted to say *he* did not do it himself were it not for the fact that he would take almost any pen or any paper, and astonish the natives in just a few minutes. I have forgotten what the tuition was for learning to write; but the ornamental drawing cost, if I remember correctly, about \$25. He soon had quite a class in penmanship, and those who took lessons would, if still alive, show it in their hand-writing up to this day. He was so well liked, in fact, that when winter came so that it was too cold for him to travel easily, he was engaged to teach the Mogadore high school; and, of course, the same beautiful penmanship was taught in the common school. At that time I had just got hold of the book "Conversations on Chemistry," and also Parker's Philosophy. This was before I went to Wellsville, as mentioned in a former paper. One evening after school our teacher said something like this:

"Amos, you have some home-made apparatus with which you are making experiments, I gather from what you have said in your recitations. Now, if you do not object I will go over this evening to look over your apparatus; and if I can help you in your experiments I shall be glad to do so."

Let me now digress a little. There were just two in our family of seven who seemed to have a particular liking for books. One of them was myself and the other was a sister some older than I. In fact, she was so diligent in her studies that a small district school out in the country was offered

her, when she was only fifteen (and wearing short dresses); and so far as I can recall she taught it very acceptably.

Well, of course I had my rude home-made apparatus and chemicals all ready for Mr. Gray when he came to make the visit; but something on a different line caught his attention before he gave me much notice. It was the bright young schoolma'am; and I remember telling my mother, almost dolefully, that I did not believe Mr. Gray cared so much about chemistry after all, for he kept talking to the young schoolma'am. By and by, however, he gave me his whole attention. I had been trying to make a pneumatic trough for handling gases; but my arrangement leaked in spite of glue, melted rosin, etc. In some way I had found out that Mr. Gray was a carpenter as well as a writing-teacher and schoolteacher. If I remember correctly, his parents sent him to Oberlin to school, but later on they found he was spending more time in a *chair-factory* near by than he was in school; but when they discovered he had become quite an expert carpenter, even at that early age, they did not feel so much troubled about it.\* My father was also a carpenter, as I have told you, and had a chest of tools. When Mr. Gray looked at my leaky trough I said to my teacher, "Do you suppose you can make a wooden box like this, and make joints so tight it will not leak, even if there were no cement on it?"

At this he glanced toward my father, with a quizzical look on his face, and they discussed the problem of making a wooden box that would not leak. My father opened his tool-chest, and Mr. Gray selected a smoothing-plane, sharpened it up according to his notion, and made the box with a shelf to hold my glass bottles and jars; and when I poured it full of water it did not leak a drop. How many carpenters of the present day are equal to such a problem? A year or two afterward, when Mr. Gray married the young schoolma'am, there happened to be an "electricity show" at the same hour of the night the wedding occurred. When my mother and sisters said I must stay and be present at the wedding I became rebellious. The idea of anything preventing *me* from attending an "electricity show!" I think they changed the time of the wedding so as to come a little earlier or later. About this time an older brother of mine was plan-

\* This was before the world thought of carpentry and growing corn and potatoes as one of the branches of a common-school education.

ning to attend a dancing-school. Mother and father, of course, objected; but he quoted this, that, and the other who were going to that school, and there seemed to be no way of settling the matter until the son-in-law said, "I think I can persuade Marshall to give up the dancing-school. I will give him lessons in drawing." In a little while my brother was so much taken up with his progress in writing, and later in ornamental pen-drawing, that he forgot all about the dancing-school. In fact, when he was a boy in his teens he went out teaching penmanship, and gained quite a little money thereby.

From first to last Mr. Gray has been a friend and helper in the Root family. In fact, he accomplished many things besides what I have narrated that no one else could have brought about. When I became interested in poultry he advised me, in order to find out whether it paid or not, and how much it paid, to keep double-entry book-keeping. Make the chickens debtor to everything purchased for them, and give them credit for every egg laid. I was delighted with this orderly way of doing business, and I think the biddies must have been "delighted" also; for before the year was ended everything had gone over to one side of the ledger. The chickens paid all expenses, paid for themselves, and paid for their poultry-house and for their poultry-yard.

When I commenced "lecturing," Mr. Gray invited me to come out to the "Black Swamp" in the western part of Ohio (where he was running a sawmill), and *educate* the people round about in chemistry and electricity. I have alluded to my ups and downs in my lecturing-tours. When it came toward winter Mr. Gray suggested that I should stop traveling during the winter months, and teach a school in their neighborhood. Let me digress right here to mention an incident in Mr. Gray's school-teaching:

In our Mogadore high school, at the time of his visit, there had been much trouble with incompetent teachers. They could not preserve order. If the master called one of the big boys to come up on the floor he would not go; and when the master tried to enforce his command by catching hold of the unruly pupil the boy would hang on to the desk until the master would have to give up. One day Mr. Gray called on a good-sized boy to step out on the floor because of disobeying some of the rules of the school. When the boy did not come, Mr. Gray took him by the collar and pulled a little. As the boy seemed to be pretty well anchored,

as usual, Mr. Gray seemed to hesitate, and then there was a titter among the rest of the pupils, all thinking the new teacher was "up a stump," like his predecessor. But all at once something happened; and it was done so quickly that it seemed like a sleight-of-hand performance. Before anybody knew how it came about, Thomas was on his back in the middle of the floor, and piteously promising to be good and behave himself if given another chance. By the way, for Thomas, who was always so neatly dressed, and had his hair combed so nicely, it was a rather severe shock to find himself in such disorder on that old schoolroom floor, none too clean at best. From that time forward Thomas was one of the best and most obedient boys in the school. When he went away, Thomas said he was not only the best teacher, but that he had learned more from Mr. Gray than from any other teacher in his whole life. Here was a practical illustration of the old proverb, "Foolishness is bound up in the heart of a child: but the rod shall drive it from him."

Well, now, let us go back to the Black Swamp. When my brother-in-law urged me to give up lecturing and go to teaching school I objected; but when he told me that the weather here in northern Ohio would make me trouble, and be bad for my health at my early age, I listened. He said, "Amos, if you just drop lecturing until spring, your school money will furnish you means in the spring to go on lecturing for *quite a long while*. You see you will have quite a little money laid up for a rainy day, etc.\*

To make this story brief, when I first planned our hive factory, in 1878, and was thinking about a brick building near the railroad, my first thought was that Mr. Gray could better plan the building and take hold of the manufacturing business than anybody else I knew of in the world. At that time he was in northern Michigan; but I solicited him to move back to Medina and take charge. For many years he was general foreman. He not only superintended the construction of our first brick struc-

\* When he applied to the directors for the school out in the Black Swamp, and they learned my age, they made the objection that I was too young. The boys in that particular school had turned the teacher out of doors several winters in the past. Mr. Gray assured them that there would be no such thing as putting me out of doors, even if I was but eighteen years old; and, in fact, some of the big boys did undertake it; but I have told you in a previous Home paper that their plans did not work. I do not know but I told the boys they might carry out my body, but not while there was any life remaining. But there was not any "dead body" in the fracas; and after the directors met to consider matters they hired me for another month longer just *because* I refused to be dethroned.



ture,\* but planned building after building as the years passed and the business increased; and he gave up his place only when he had become too old to assume so much responsibility; and till within only a few months back, with only slight intervals, he has been connected with our institution more or less ever since. Even during the past winter he has usually put in half a day's work in the factory, employed wherever nice mechanical woodwork was needed. He has always been a very busy man. Carpentry and fine woodwork seems to have been his special forte. He has built many dwellings, several automobile garages, and his wonderful skill in ornamenting various structures seems to have been his peculiar gift since the time when he did such wonderful work with his pen when but a boy.

Now for my closing incident. All through the life of our departed relative he was a remarkably *busy man*. He could never be idle a moment; and besides that he had a peculiar and wonderful skill to take hold of and improve everything he touched. Between 65 and 70 years ago it was quite the fashion to make pictures and mottoes on perforated paper. By using different kinds of bright-colored yarn, which I believe they called "erewel," at that time, some beautiful needlework was done by the women folks, and it was really very pretty. Mr. Gray happened to be in to see my sister one summer evening, and found her at work on some perforated paper. He picked up a scrap or strip of the paper that had been cut off; and, selecting his variously colored crewels, he worked out in a little time, in beautiful, colored ornamental letters the following:

*Thine till the heart in death is cold.*

He gave it to my sister, and she put it away, evidently considering it too sacred to be shown to anybody, unless, perhaps, to her mother. But I happened to go into her room one day, and before I could find what I wanted I came across this piece of ornamental lettering. It just hit my boyish fancy. There was a little golden-haired girl who lived near us, and I often used to see

\*Those who have visited our plant here in Medina will have noticed the beehive on the front of the first brick structure. Above the hive are the words "In God we trust." It was at Mr. Gray's suggestion that a hive carved out of a block of sandstone should adorn the front. There was some talk about a motto to be placed above it, something like

"How doth the busy little bee  
Improve each shining hour," etc.

But I finally decided to have cut in the sandstone, above the hive, the words "In God we trust." Mr. Gray drew the letters on the stone for the mason to cut out; and I hope the managers of this industry for generations to come may, at least once in a while, glance up to that inscription and manage this business in a way that all the world may see that we are living up to our profession.

her as she went down to the spring at the foot of the hill to get a pail of water. I made up my mind that if my sister would *lend* me that piece of work I would make one like it or at least *try* to make one like it (in due course of time—of course not right away), for the girl who used to come down the hill swinging her sun bonnet in one hand while she carried the tin pail in the other.\* But my day dreams were suddenly interrupted by the entrance of my sister who gave me a scolding for invading her treasures without permission. When my mother interceded, however, I was permitted to try to make a copy of the precious piece of work; but my copy never came anywhere near the original.

When I this morning saw that lifeless form cold in death, memory ran hastily back to the time when the bright young teacher, full of life and energy, patiently wrought out that gift especially for his betrothed, "Thine till the heart in death is cold."

Mr. Gray united with the Congregational church when a boy in his teens, and was still a member at the time of his death.

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#### THE GREAT ARMY OF UNEMPLOYED; GOD'S KINGDOM IS COMING.

I was particularly impressed with it this morning while reading an article in July *Successful Farming*, of Des Moines, Iowa, entitled "Our Government: what it is Doing, and How." I earnestly wish that every one of you would send and get the July issue of that paper and read that one article. It was a happy surprise to me to learn that our Government has not only taken care of the unemployed, but is sending to farmers all over the United States exactly the men needed as far as possible; and it does this, too, without a cent of pay on the part of the unfortunate man who is without work or the farmer who wants help. Those who apply for employment are put through an examination to see what they are good for, and to see if they really *will* work. As an illustration:

A farmer from away out west wrote and told just what sort of man he wanted. The Department wrote him that they had a man who would suit him exactly, except that he was a Russian and could not speak a word of English. He wrote back, "Send him on." When the farmer got to the train the Russian said "Good morning" to him, and, to his further surprise, he could talk quite a little English. How did it happen? Why, the Government gave him

\* Of course this was long before I first saw Mrs. Root.

a little book with red-ink phrases such as he would most need to use in English, and an explanation in his own tongue. He studied his little "dictionary" all the way on the long trip, probably talked with the passengers as well as he could, and that is how it came about. Well, now, here is the best part of the little story:

The farmer who agreed to pay him a certain price raised his pay the first month; more the second month, and so on.

Why, it was worth a whole lot to have these two good men brought together. His learning to speak English impressed me vividly with my experience in learning to speak Spanish when down in Cuba.

Now send for that article and read it through. It will increase your faith in our Government, and increase your faith in the fact of what I am telling you, that God's kingdom is coming.

## HIGH-PRESSURE GARDENING

### SPINELESS CACTUS—WHAT OF THE FUTURE?

I suppose I shall meet with some criticism because I think best to give so much space to the spineless cactus, especially since the Department of Agriculture and the experiment station of Florida do not at present give very encouraging reports in regard to it. When I first saw Kidder's circular and price list in regard to the spineless cactus I decided some of the statements should be received with caution; and while I feel to a certain extent the same way yet, I think he and others like him often do great service to agriculture. His circular and his letters suggest a certain comicality that is contagious. As an illustration I submit below a portion of a letter just received; and I have taken the liberty of giving the letter just as he wrote it, "short cuts" in spelling, and all.

*My dear old friend:*—Apologizing for the long delay, I have been greatly overburdened with bizness and correspondence. I thank you for your kind letters and interest, and copy of GLEANINGS. I have enjoyed looking it thru instead of reading it thru, becauz I don't have time to read anything thru lately, and my table is piled hi with unlookt-thru books, magazines, and papers. Yet I enclose \$2.00 check, for which please send me GLEANINGS beginning with the August number and also a Luther household grinder. My family will enjoy it anyway, and may bc I will have a little more leisure time too to look it thru more carefully. My eye caut the letter from your good kind Christian friend Henry Borchers, of Laredo, Texas. My! I wish my naborhood was full of such men as that. I also appreciate the joke about the reward your wife gave you for sharpening up her paring-knife, and I presume my wife will reward me quite as handsomely—she frequently does.

Yes, I saw the criticism on spineless cactus in the papers you mentioned, and it caused a perfect avalanche of inquiries to slide on to mc, and also the loss of hundreds of dollars' worth of orders. I have, therefore, prepared an article on spineless cactus for publication, which you are at liberty to quote or publish in whole or in part if you wish.

I certainly shall be delighted to have you call and see me at any time it is convenient for you to do so; but I am afraid I cannot supply you with any cactus fruit yet awhile, at least not until late next fall, as I am constantly cutting my plants back to full orders.

I don't think I have made any extravagant statements in my circulars which are not true. I have quoted some quite extravagant-sounding statements from *other people*, however, and presume those are the ones to which you refer. Yes, certain varieties grow better on rich soil than on poor soil. I have never written any different opinion, but you seem to have misunderstood me there.

Monticello, Fla., July 29.

SAMUEL KIDDER.

What gave me enthusiasm down in Florida was the astonishing growth of the cactus in just a few days. Well, right here in Medina I am having the same experience. A couple of pictures on another page will show you the growth made in just nine days; and the funny thing about it is that we have had rains about every other day (or oftener), while the cactus made this growth in a heavy clay soil.

Mr. Kidder's booklet, which I advise all to get and read (as well as look at the half-tone pictures), suggests that the cactus plants will take the place of the silo in Florida and other southern states. You can plant it any day in the year, and harvest it any day in the year—that is, the kind for forage. I think one of the government reports gave as a reason why it could not be of any great value was that it is "almost all water." Here is a clipping from Kidder's circular in regard to the matter:

The erroneous statement that there is "too much water" in spineless cactus to make it a desirable and practical food, "especially in Florida where water is so plentiful"\* (ha! ha! ha! it makes me grin to think of it), was recently made by a hitherto supposed-to-be-wise old guy. He evidently must have been dozing for the moment or else forgot the days of not so long ago when mother first saw the pictures of tomatoes in the catalog and wanted to try some; but father said, "No, I've read in the newspapers that those things are *poison*, and will give you a *cancer* if you eat them. Besides, the professors say they are of no value, as they are almost all water, anyway."

Suppose they are almost all water. Below is a table that friend Kidder submits of

\* The expression, "where water is so plentiful," gave me a good hearty laugh, and I laugh again as I think of it. "Plentiful"—I should think so. When it is raining close to a foot in 24 hours it well might be called "plentiful."





THE CACTUS SLAB MENTIONED ON PAGE 646 OF THE LAST ISSUE OF GLEANINGS.

This slab was planted in our Medina garden about July 1. The picture on the left hand was taken July 26, and the picture on the right was taken just nine days after. With the first picture you will notice some corn in the background. The next time, in order to show the new slabs (or leaves) to better advantage, I held a white sheet back of the plant. This astonishing growth was made in common clay soil; and I think it demonstrates beyond question the wonderful growth this plant may make under favorable conditions. We expect to give another picture in our next issue.

some other things that are "almost all water."

Milk .....	87.5	Oranges .....	87
Grapes .....	87	Apples .....	83
Spinach .....	90	Pineapple .....	89
Lettuce .....	94	Asparagus .....	94
Tomatoes .....	96	Squash .....	95
Strawberry .....	90	Pumpkin .....	94
Peaches .....	69	Cornstalks .....	80

And while we are discussing this, let me mention that, years ago, when we marketed Jersey Wakefield cabbage every day, on purpose to use up trimmings from the cabbage I got some little pigs. Now, these pigs did not have a thing—not even a bucket of water—in addition to the cabbage leaves. We almost covered the little fellows up with cabbage, and the pigs made a tremendous growth. An account of it is given in our book "What to Do," etc. You see the cabbage was provided fresh every day in the week; and when we grow cactus for cattle, horses, pigs, or chickens it also can be furnished fresh every day in the year.

#### CACTUS FRUIT; QUANTITY AND QUALITY, ETC.

I have seen just one real good tuna (cactus fruit). I found it in the road near Sebastopol, Cal., where some one had dropped it, evidently by careless handling, and it was near the Burbank ranch. My own cactus plants, from slabs which were put out in the spring of 1914, gave me 48 tunas that were the size of medium oranges. I saw larger ones in Bur-

bank's gardens at Santa Rosa. The quality was good; but the taste was different, somewhat, from anything we were used to eating, so we did not become enthusiastic over them, while at the same time we liked them fairly well. Here we have so much good fruit that we are thoroughly accustomed to eating that we are poor judges of a fruit of entirely different character. The one tuna I spoke of was very ripe, a little wilted, and tasted as good as a prime fig or nice berry jam; in fact, sweet and delicious; however, I look upon the tuna as a better feed for fattening hogs than for human consumption. The cactus plants, I am told, become full bearing when about five years old.

At Mr. McCubbin's, over at Reedley, the three acres of cactus of three years' growth have not produced any large crop, but they have borne an increasing crop each year. He has about 20 plants five or six years old that he has pruned severely each year for cuttings that give a good quantity of fruit in spite of the severe pruning, since only last year's slabs will produce fruit this year, etc. All varieties (120 of them) bear fruit, but only a few are good for human consumption. You can get the whole history of the opuntia from the U. S. bulletin, Department of Agriculture, Washington. Selma, Cal., July 8. O. S. DAVIS.

Here is something further from friend Woodberry relating to the matter:

Mr. Root:—Regarding the fruit of the cactus, I fear it would be impossible for me to acquire a liking for it; but the Mexicans esteem it quite highly. I have not noticed it on the fruit-stands, yet it may be on sale in some sections of Los Angeles. I will send you some ripe fruit later on, and you can judge for yourself.

Glendale, Cal., July 11. G. B. WOODBERRY.

## THE ST. REGIS RASPBERRY.

Just after I got back from Florida (I think it was about May 10) I sent to W. N. Scarff, New Carlisle, Ohio, 25 cents for three plants of the St. Regis raspberry. I was induced to do this because the card declared they would bear fruit the first season. It is now July 29, or about 80 days since the little plants were put out in good ground. By the way, instead of sending me *three* plants for the 25 cents, as advertised, I received *six*. They were only a few inches long, and it was some days before the entire six really started to grow. Perhaps it was June 1 before they really got to going. Well, it has been one of my happy surprises to see them put out bloom, and now every one of the six little bushes is pretty well loaded with berries; and they are about the largest red raspberry I ever saw. I have been disappointed so many times in new things extravagantly written up that I do not know but I was beginning to lose faith. But here is a beautiful fruit right before my eyes, only 80 days from planting. I wrote Mr. Scarff how well pleased I was with the new raspberry, and he replies as follows:

We are very glad you are pleased with the St. Regis. We have just finished picking a fine crop of berries from plants of the St. Regis set last spring. It is certainly a fine berry. They will rest up now for a short time, but will again begin to bear about Sept. 1 and continue until Oct. 15 to 20.

New Carlisle, O., July 26. W. N. SCARFF.

Perhaps I should mention the fact that one reason for my good success is that the six plants stand where there was a small poultry-yard for two or three years. Red raspberries are selling now in our market for 20 cents a quart. This is a day and age in which we want returns quick. Do you know of any other fruit or berry where you can reap a harvest in 80 days from the time of planting?

SWEET CLOVER; THE GOOD THINGS ABOUT IT  
NOT YET ALL TOLD.

We clip the following from the *National Stockman and Farmer*:

## EXPERIENCE WITH SWEET CLOVER.

So much has been written both for and against sweet clover, also of its uses, that it would seem that all has been told.

Such is not half the case. Its evils are none that I know of, and I have known it for many years. It may become a pest when it runs wild, but a blessed pest it is—more blessed than bluegrass or any other plant I know of that has the ability to run wild and be useful. As a soil-builder it has no equal. More than fifty years ago the Panhandle railroad was graded along by Raccoon Station, and a deep fill had to be made to the approach to the trestle over Raccoon Creek. To get dirt enough for the deep fill they stripped off all the soil down to the solid rock, this stripped area being about five acres

in extent. A school-house was built on this bare rock, as many readers of *The Stockman* may remember. In some unknown way the seeds of sweet clover got into the cracks of this rock. This was about thirty years ago. The rock being exposed began to soften on the surface, and the sweet clover spread over the entire area, as well as all around it. I was along the road about ten years after the sweet clover came. The schoolhouse was gone, but the growth of sweet clover was simply immense. Then I began to dig in the newly made soil, which was fully five inches deep, and the rotten rock under the soil was deeper, and was filled with the clover roots that were fast breaking up the underlying rock and making it into new soil.

It is said that sweet clover must have an abundance of lime; but this rock did not have much lime in it, as it is what is known as the Connells-ville sandstone.

In many other places I have seen fine sweet clover growing where no limestone was to be found, yet it does far better in a good limestone soil, or a soil that has been well supplied with lime.

The good qualities and many valuable uses of sweet clover are too numerous to mention. Its nutritive qualities are superior to alfalfa, and it is eaten just as greedily after stock of all kinds has learned to like it, which is not very long. Its earliness exceeds all other plants, even rye. This day (April 10) the young sweet clover is over two inches high, and the frost has not been out of the ground over one week, and you just ought to see the chickens eating it. They pasture right on it all summer and fall, as it stays green till killed by hard freezing; then the seeds begin to fall, and the hens just scratch and pick up seeds from dawn till dark. I am safe in saying that an acre of sweet clover will produce more chicken feed from the seeds than an acre of wheat or corn, and fowls will pasture on it all the growing season, and still be making the ground richer. At the same time the bloom will produce from three to five dollars' worth of the finest honey.

Sweet clover is also a great sub-soiler and an underdrainer. I have measured roots that were an inch and a quarter in diameter, and often from three to five feet or more in length. These long roots are of untold economic value in their process of plowing, draining, and fertilizing the sub-soil.

At Downeyville, in Butler County, Pa., there was a swamp of two or three acres along the creek. After the railroad went through, sweet clover got a hold in it, and in five years that swamp was drained; the roots had pierced the subsoil and let the water down into a lower stratum.

There are three species of sweet clover on the market. *Melilotus alba* is the largest and best. It has white blossoms. *Melilotus indica* is small, lives only one summer, and is of very little value east of California. It has yellow blossoms.

Jefferson County, Pa.

GEORGE HOUGH.

Permit me to call attention to the statement that it furnishes the best of feed quicker than any other clover or any other plant grown on the farm. In corroboration of this I may say that just across the street from our home is a field of sweet clover on this 13th day of May, knee-high, and growing as thick as it will stand. The seed was sown with oats a year ago, and near this sweet-clover field is a field of crimson clover and also rye; but the sweet clover certainly furnished good feed away ahead of any of the others. I was particularly interested also in the statement about an acre of sweet clover for chicken feed. It seems to me that



statement is at least exaggerated unless we take into consideration its value as green feed as well as the value of the seed for chickens.

#### THE DASHEEN AND ITS PRESENT STANDING.

I have before expressed surprise that none of our northern seedsmen, who are supposed to be on the lookout for everything new pertaining to the garden, have never made any mention of the dasheen. Just now, however, the Henry Field Co., of Shenandoah, Iowa, has given it a place. Below is something clipped from the *Country Gentleman* in regard to it:

##### PROGRESS WITH THE DASHEEN.

Ever since the Federal Division of Foreign Seed and Plant Introduction began its experiments with the dasheen this West Indian crop has proved itself well worth care. In 1909 the Department recorded a South Carolina planting of dasheens that yielded at the rate of 400 bushels to the acre. Since then from less than five acres on the Department's testing grounds at Brooksville, Florida, 1400 bushels of dasheens have been harvested. From other plantings in Florida and Louisiana as much as twenty-two pounds of dasheens has been harvested from single hills.

In addition to the Florida, Louisiana, and Carolina crops, the dasheen has been successfully grown near Norfolk, Virginia; in Southern California, and near Ray, Arizona. It promises well for use in irrigated sections of the semi-arid Southwest.

It would seem that the Department's success with dasheen plantings fits in admirably with the new Southern campaign for crop diversification. Not only does the dasheen promise well as a market crop once the public generally has recognized its merits, but in the meantime it is capable of furnishing food for home consumption. Its food value is higher than that of the potato. The dasheen contains less water than the potato, and about fifty per cent more protein and fifty per cent more starch. The flavor of the dasheen is decidedly richer and more tempting than that of the potato.

Robert A. Young, of the Department, says that in more ways than one the dasheen outdoes the potato.

"It can be grown as a summer crop in a region where the potato must be grown almost entirely as a spring crop," he argues, "for it ripens its tubers in October and furnishes them for the table at a season when northern-grown potatoes have to be shipped in.

"The young leaves, properly cooked, can be substituted for spinach. The branched shoots, obtained by forcing dasheen corms in the dark, constitute an entirely new product. The nutty flavor of the tubers gives them a peculiar palatability."

The larger tubers are ground into flour, which is used for soups and gruels, and is mixed with wheat or rye flour to make griddlecakes, biscuits, and bread.

At present the dasheen appears to be no more difficult to keep in storage than the sweet potato, but will usually keep well if stored in a dry place at a temperature of about sixty degrees Fahrenheit.

We are also told that the Department of Agriculture has recently issued another circular concerning it. Although the dasheen is still mostly confined to the South, yet I might say we are now growing our third crop here in northern Ohio, and I feel more and more satisfied that it can be grown

profitably all over our northern states; and it will ultimately prove to be one of our most nourishing and toothsome vegetables.

##### DASHEEN IN ALABAMA A SUCCESS, ETC.

Last year the two bulbs of dasheens that we received from you were planted and cared for carefully and this spring we had over one hundred bulbs to set out, besides some to give to our schoolchildren and neighbors to try. We are in the backwoods here, and people are much interested in the modern method of handling bees. Some time I will write you of the work we are trying to do along the line of missionary work, as I know you will be interested. Your last magazine has just arrived, and wife immediately laid aside all work till she had glanced over your article.

Semmes, Ala., May 18.

C. D. GRIFFIN.

##### STRIPED SQUASH-BUGS—A SURE REMEDY FOR THEM.

As a rule, chickens and a garden do not go very well together unless one or both are inside of a chicken-proof inclosure. But there are exceptions. Listen to the good brother below:

*Friend Root:*—I have just been reading in GLEANINGS of your troubles with the striped cucumber-bug. Prior to this year I have tried about all the remedies ever suggested, and failed generally. This year, just as the melons and cucumbers were coming up, I took an old hen and about twenty day-old chicks, put the hen in a coop, let the chicks all run at large in the patch, and in a few days the bugs came "a plenty;" and what those chicks did for them was "a plenty" also. And grow? I never saw chicks do better. When they began to scratch I moved them out and put in younger ones. This scheme worked for me, and I pass it along for what it is worth. I might say, with things in this shape I slept all right at night and went to church on Sunday.

CYRUS H. CLINE.

Mt. Solon, Va., July 23.

Many thanks, friend C. If I hadn't been stupid I should have thought of the hen and chickens before; but knowing that chickens will not eat the common potato-beetle I did not feel sure that they would eat the striped squash-bugs. The next point is, to be sure to have the chickens on hand when needed. I have been telling you that when you set a hen you should plant some radish seed so as to have it ready for greens. Now we shall have to say, also, when you plant your squashes you should set a hen or two hens, and then you can all go to church. This reminds me that another brother had trouble with the bugs as well as myself. Read what he says:

*Mr. Root:*—For a number of years I have used a powder made of equal parts of slacked (dog) lime and stovewood ashes. After being dusted the plants look a little dull and dry, but the powder soon scales off, and the plants look healthier, brighter, and get a stronger growth than before. I have used this powder to drive away yellow striped bugs from pumpkin plants, melons, etc., with good success, and prefer it to any other remedy. Try it on one plant, and I am sure you will use it on all you have.

Elgin, Iowa.

E. H. OSTGOOD.

# POULTRY DEPARTMENT

## GROWING YOUR OWN CHICKEN FEED INSTEAD OF BUYING IT, ETC.

I remember once hearing a small boy say to a merchant, while standing in his store and looking at the fine array of goods, something like this:

"Mr. Brown, if you did not have to pay anything for your goods, wouldn't it be fun to keep store?"

Well, I have been many times thinking what fun it would be to keep chickens if we did not have to buy food for them; and while off on the island of Osprey, I had a neighbor who had a small flock of chickens which they did not feed a thing. The poultry had the run of the whole island, and my neighbor got quite a few eggs. Of course he did not have very many chickens—perhaps fifteen or twenty.

Well, since wheat has been away up out of sight I have been wondering if I could not grow feterita and other things so as to avoid buying expensive grain down in my Florida home. Of course we do grow our own chicken feed here in Ohio—that is, we grow both corn and wheat to sell. I might ship some down to our Florida home every fall; but the transportation would make it cost more than to buy it there at the great warehouses. Well, now, here is a clipping from the *Florida Grower* that hits the very point we are discussing.

DADE CITY, FLA., July 25, 1915.—In reading the letters published in the *Grower* I see numerous inquiries as to what can be grown here in South Florida for chicken feed. Now, I am in the poultry business, and finding my profits badly cut by the greatly increased cost of western grain since the beginning of the European war, I determined this spring to raise all the feed I could myself. I have a farm of thirty-two acres, and "board my chickens at home" as far as possible.

I planted cassava, corn, Egyptian wheat, chufas, chicken corn, Spanish peanuts, cowpeas, feterita, millet, and sunflowers. Also have collards growing on low ground for greens. At the present I have ripe cowpeas, sunflowers, chicken corn, and Egyptian wheat in abundance for my poultry, and consequently have been able to cut off store feed entirely, which in these days of soaring prices is truly an extremely pleasant thing to do. I expect to feed wholly on home-grown stuff till frost comes. After that I will have some feed and some I shall have to buy. I believe the various new sorghum family grains are likely to prove a wonderful help to southern poultrymen; for although they seem so perfectly adapted to the arid section, growing and producing crops with almost no rain at all, yet they seem to take just as kindly to our numerous and generous summer showers. My feterita, planted, May 28, is now, July 20, about seven feet high, and heading out finely. It is an entirely new crop to me; but I am told that western people who have tried it thoroughly consider it a good substitute for wheat. One nice thing about it is its remarkably rapid growth.

Egyptian wheat planted at the same time as the

feterita is not heading yet, but I have some planted earlier with ripe heads a foot or more in length. It looks very nice indeed, and the chickens eat it greedily. Another thing I am trying this summer is Sudan grass. It is designed for forage rather than for grain. I am much pleased with it also, and, as I said before, it certainly looks as if these new sorghums would prove a boon to the South.—C. H. T.

Please notice his feterita has grown seven feet high, and was heading out after it had been planted only 53 days. As Dade City is a little further north than Bradentown, and away from the water, they usually have frost more or less. In our Bradentown garden we usually have no frost so as to interfere with feterita or anything else. But it makes a very slow growth during the colder months.

Without question it is possible to grow your own chicken feed as I have suggested above; but if you have to hire help to grow your stuff it may transpire that it will be cheaper to buy corn and wheat shipped in than to grow some substitute as suggested. Each person will have to figure this out for himself. If you like the fun of growing stuff as well as keeping chickens, and have nothing else to do, very likely you can so manage as to pay out no money for your chickens; and so all you get for your eggs and fowls will be your pay for your labor.

I suggest the above is a good scheme for an old man like myself. Grow your crop with your hand cultivator, such as we have been talking about; and it is a comparatively easy matter to do this in our friable Florida soil.

A good friend, after writing me a long letter, suggests that perhaps I had better have a chunk of that "maple sugar" before I attempt to read it all and give him an answer; and you may need some of that same maple sugar to go along with that cultivator in growing the feterita to feed the chickens.

### FETERITA IN VERMONT.

Will you please send me a few feterita seed to experiment with? We are so far north that I think if it will ripen in 60 days we need it much. Some years in 90 days corn will ripen. A grain that will stand dry weather and make good is what we want here.

WALTER F. WHIPPLE.

Newport Center, Vt., July 29.

My good friend, unless you have sixty days of warm dry weather I hardly think you will get any feterita to mature. While it grows tremendously during the hottest part of the season, it makes a very slow growth when we have cold weather, especially if there are cold rains such as we had last winter in Florida. You can, however, grow green feed safely before frost.